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Vol I

MODERN IMPROVEMENTS

IN THE

P R A C T I C E

O F

P H Y S I C.

MODERN LITERATURE

IN THE

PERIODICALS

OF

THE HUMAN

MODERN IMPROVEMENTS

IN THE

P R A C T I C E

O F

P H Y S I C.

BY HENRY MANNING, M.D.

AUTHOR of the TREATISE ON THE DISEASES
OF WOMEN.

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T H E

P R E F A C E.

TH E age of Boerhaave forms a memorable epoch in the history of physic. Theory, which before had been entirely conjectural, now assumed a more plausible and scientific appearance, and the paths were marked out which seemed to lead to the utmost improvements

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ments of practice. For several years the authority of this great man remained unquestionable in the schools of medicine; but in proportion as either ingenuity continued to investigate the laws of nature, or accident enlarged the bounds of practical observation, the preceding system respecting both nature and art underwent a partial change, and empiricism (I mean only that empiricism which is an enemy to hypothesis, not to reasoning) again asserted its rightful claim to the attention of mankind.

AT this period commences the æra which is the subject of the present work. What improvements have been made in Physic and Surgery within the last forty years, it is unnecessary here to enumerate. They are however so important and extensive as to render an account

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count of them highly interesting to every practitioner.

CONVINCED of the great inconvenience that arises from those improvements being scattered in a multiplicity of publications, I was of opinion that a work which should comprise the whole, could not fail of being acceptable to the public.

To this idea, therefore, is owing the appearance of this volume, in which, as being a compilation, I can pretend to no merit, any farther than that of having followed the most approved authorities on every subject. I might, perhaps, have sometimes interposed my own observations; but judging that to be improper in a treatise of this kind, where it is necessary to deliver with strict attention the precise sentiments of every author,

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author, it is hoped, not the smallest degree of misrepresentation will any where be found; and that it will be of the greatest utility to the medical world.

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IN THE
PRACTICE OF PHYSIC.

Of INFLAMMATORY FEVERS in general.

THROUGH all the fluctuations both of theory and practice, from the earliest ages of physic, bleeding has been considered as the principal remedy in the cure of inflammatory diseases. So indispensable is this evacuation, that the delaying it too long, or not repeating it oft enough, is an error in practice which can never be compensated by any other means, however powerful. Twelve or sixteen ounces is the quantity most usually drawn from a strong adult in an inflammatory fever at the first or second bleeding, but at all the subsequent times less. It is proper to observe the colour and consistence of the blood while it flows, as by these the quantity ought in a great measure to be regulated.

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gulated. When it is thickish, and of a dark cast (which is commonly the case in great inflammations) we are authorised to take it away more freely. But the strength and hardness of the pulse, with the other concomitant symptoms of inflammation, afford the most certain rules by which to proceed. When large quantities are necessary, it is best to bleed the patient lying, in order to prevent his fainting before enough be drawn; otherwise, in all inflammatory pains, the *animi deliquium*, upon the loss of blood, is accounted a favourable circumstance.

After bleeding, an early sweat is of great advantage for stopping the progress of the disease. One of the best medicines for this purpose is a draught of vinegar-whey, with some spirits of hartshorn. Or, instead of it, we may give two scruples of the salt of hartshorn, saturated with about three spoonfuls of common vinegar, in one draught, and promote the *diaphoresis* with some warm diluting liquor. It has been usual to give the *theriaca* for the same intention: but Sir John Pringle justly observes, that all such drugs increase the fever, if they do not procure a sweat; while, on the contrary, the saline mixture operates without heating. The *theriaca*, however, is rendered more sudorific by adding to half a drachm of it some grains of the salt of hartsh-

hartshorn, and by encouraging the sweat with vinegar-whey, or thin water-gruel acidulated with vinegar.

For promoting perspiration, Sir John Pringle acquaints us, that he once followed the common method of joining the *testacea* to nitre, without paying any particular attention at first to the effects of the former ; but having since discovered a septic quality in those substances by experiments out of the body, he thinks it probable that they exert a like power when taken by way of medicine, which perhaps would be more frequently observed, were it not for the quantity of acids usually given in acute diseases ; whence not only the septic nature of the *testacea* is destroyed, but some of the acid neutralized, and thereby rendered more diaphoretic. The putrifying quality of those powders was also corrected by the contrayerva root, and by the camphor, which was added to them. The common dose was a scruple of the *pulvis contrayervæ compositus*, with ten grains of nitre, and three grains of camphor, given four times a day, in a little barley-water.

These powders were given partly to promote a *diaphoresis*, when nature seemed to point that way, and partly to abate spasms, as the head was so apt to be affected ; but being a medicine which had little sensible effect, the judicious phy-

sician above-mentioned placed the less dependence upon it.

Sir John Pringle's first practice in every inflammatory fever was to blister, especially in the advanced state, when he believed that the patient could not bear any farther loss of blood. But afterwards finding that the solution of the fever was not to be procured by that means, he confined the use of blisters to those states of the disease in which he could be more assured of their efficacy; such as that of a head-ach, when not removed by the first bleeding, or by opening the body. In this case a blister between the shoulders seldom failed of giving ease.

When the patient had a cough, or any other sign of inflammation in the lungs, a blister was also applied between the shoulders, though not with equal certainty of relief; but if there was a stitch in the side, the plaster was laid on the part affected.

If the body was bound, it was opened (after the first bleeding) by some gentle laxative; but throughout the course of the fever costiveness was sufficiently prevented by almost daily clysters, if the patient had not otherwise regular stools. If the fever in the beginning was attended with gripes and a looseness, after bleeding, some rhubarb was given; and if the purging still continued,

nued, four spoonfuls of the chalk-julep were ordered after every loose stool.

Towards the crisis, or in the decline of the fever, a little wine was added to the panada, or given in some other shape, as the best cordial; but in great sinkings, some drops of spirit of hartshorn, in a tea-cup-full of white-wine whey, were preferred to every other medicine.

After recovery, some mild purge was often requisite, to prevent the too hasty repletion of the convalescents upon indulging their appetite; cathartics at that time seeming otherwise unnecessary.

With respect to opiates, which a young practitioner might think expedient amidst so many complaints of pain, looseness, and want of rest, Sir John Pringle observes, that these remedies were to be given only in the advanced state of the disease, when the inflammatory symptoms were much abated, when the head was not affected, and when the patient, after long watching, believed he should be well enough if he could but sleep. At such times, especially about the crisis, he usually ordered two scruples of the *confectio Damocratis* at bed-time, with good effect. If the paregoric was continued, costiveness was prevented by clysters, or some laxative.

6 MODERN PRACTICE

In these, as in other fevers, the thirst was moderated by barley-water acidulated with vinegar, or by balm tea with lemon-juice. As to diet, the patient was always kept upon the lowest, such as panada, water-gruel, and the like, without allowing any broth till after a breaking and a sediment in the urine. When this happened, a decoction of the bark, or the elixir of vitriol, completed the cure.

Dr. Grant observes, that the practice of giving heating medicines in inflammatory disorders is now almost generally exploded; and people are not so much afraid of free air, and the erect posture, as formerly: but there is yet an error of a different kind which remains to be corrected; viz. the giving of antiseptic medicines instead of antiphlogistic. Thus the rough acids of unripe fruits, or of the mineral kingdom, which are found to moderate the heat and anxiety of the putrid fevers, are frequently employed in those of the inflammatory kind.

The same author observes, that the bark given as soon as there are signs of coction, is frequently pernicious, and in no fever more than the simple inflammation, especially when it is likely to go off by the natural emunctories.

Of the CATARRHOUS FEVER.

THE catarrhous fever is excited by a morbid lentor of the fluids, superadded to an inflammatory disposition, and is chiefly prevalent in the winter, under the various forms of a cough, rheumatism, erysipelas, and dysentery. By indiscreet management these complaints are frequently interchanged, varying with the part on which the fluxion is determined.

In the catarrhous fever there are four indications of cure. First, to take off the inflammation. Secondly, to dilute and sheath the morbid lentor. Thirdly, to evacuate it from time to time, according as coction takes place, by that outlet which affords most relief; endeavouring, at the same time, to defend the part as much as possible from injury. Fourthly, to restore the solids to their natural tone.

The first intention is answered by what has been said of the cure of the inflammatory fever. The second by demulcents, and such remedies as are adapted to the acrimony peculiar to the constitution. The third intention, or that of discharging the morbid lentor, requires great vigilance and skill; for the lentor being frequently very acrid, and the coction slow, the whole is

seldom or never evacuated by the common emunctories; but some part of it is discharged by the phlegmon, or seat to which nature has directed the fluxion. Besides, as this often falls upon a principal part, some danger may arise of the latter being materially injured, as it would be unsafe to use repellents, for fear of increasing the fever. Nay, it has been observed, that repellents seemed rather to promote than retard mischief in the parts affected.

Dr. Grant informs us he has constantly observed, that young people about the age of eighteen, nineteen, or twenty, who are seized with a catarrh in the months of January or February, and recover in April, May, or June, although they be in all appearance well during summer, harvest, and winter, yet never escape a return of the catarrh in the following spring, till they pass the age of twenty five, unless they are well fortified during the harvest and winter, with restoratives and antiseptics, or by good fortune are seized with an ague, which, if well conducted, effectually cures the catarrh. But if the ague be stopped before the proper change in the constitution is completed, the disease is rendered more inveterate, and commonly terminates in a phthisis.

The same writer observes, that when a young person, in the spring-season, is seized with the
common

common symptoms of a cold, such as a coryza, pain in the throat, tickling cough, and the like, these are to be considered as the harbingers of a catarrhus fever, and therefore the diet ought to be immediately reduced. The patients must not be exposed to the night air; they should go early to bed at night, and remain in it a little longer than usual; nor should they take any violent exercise till these symptoms subside. But if the symptoms do not abate in four days, some blood ought to be drawn on the morning of the fifth, and an emetic be given in the evening. If after these remedies the disease should not abate, the patient ought to be purged the morning of the sixth day, and the body be opened every day, till the heat subsides, or till a soft easy spitting comes on. They ought however not to remain all day in bed, nor encourage morning sweats, though the natural perspiration, during the ordinary hours of sleep, gives great relief.

Of the BILIOUS FEVER.

THE most common symptoms of a bilious fever, according to Sydenham, are twelve, of which seven are essential to it, and five are accidental. These we shall transcribe in the order they occur, with Dr. Grant's remarks upon each.

I. "*Intervals of heat and cold succeeding each other.*" This is common in many fevers, especially such as are accompanied with crudities in the stomach. We frequently see it before the operation of a common vomit, even when there is no fever.

II. "*Frequently a pain in the head and limbs.*" To which he might have added the back and loins, and all the symptoms of turgid matter in the first passages, particularly of yellow bile.

III. "*A pulse not unlike that of a healthy person.*" This is to be understood at the very beginning only, or more properly during the *terrentia febris*; for as soon as the true rigor comes on, and the stated fever begins, the pulse becomes quick; and if the proper evacuations are neglected, it soon exceeds in quickness that of the inflammatory fever.

IV. "*The*

IV. “ *The blood commonly resembles pleuritic blood.*” This depends greatly upon the temperament of the sick, and the degree of frost, or the point from which the wind blows. In the very beginning the blood is not very fizy, but becomes so after some days, and the buff resembles old or yellow tallow. But towards the end of the fever, the blood becomes dissolved.

V. “ *A cough mostly, which, with the other symptoms of a mild peripneumony, goes off so much sooner, as the disease comes on at the greater distance from winter.*” This is altogether true ; for the cough is scarce ever in August, not common in September, but frequent in October, and very obstinate in November, so as rarely to go off without a concocted spitting.

VI. “ *Sometimes a pain in the neck and throat in the beginning of the illness, but not so violent as in a quincy :*” and is frequently mistaken for a rheumatic complaint.

VII. “ *Though the fever be continual, yet it often increases towards night, as if it were a quotidian, or double tertian.*” This remission is common even from the beginning, and continues throughout, if properly treated. It is a bad sign when the remission is short, and a good one when it is lengthened. When the fever is complicated with an ague, the remissions are more perfect ;

perfect; and when the exacerbations begin with chilliness and rigor, it may be expected to form soon; especially if there be, at the same time, signs of coction; particularly a yellow or lateritious sediment in the water, which is more common in this than in any other class of fevers.

VIII. “*There is so great a tendency to a frenzy, that it frequently comes on spontaneously of a sudden; but rises not to such a height as it does in the small-pox, and other fevers, the patient being rather calmly than furiously delirious, and talking wildly between whiles. This symptom is greatly increased by lying always in bed, though with few cloaths on; for the fever being thereby translated to the head, a coma or frenzy soon succeeds.*” When this fever is properly treated from the beginning, the delirium is not very frequent, nor troublesome to remove; but if sweating be much encouraged, especially in the beginning, and previous to the other evacuations, the head soon becomes affected. The advantages derived from an erect posture in cases attended with a frenzy, I have experienced very often.

IX. “*Peteckia or eruptions frequently appear, occasioned by an unseasonable use of cordials, and a hot regimen; and in young persons of a warm constitution, purple spots, which are certain signs of a considerable inflammation, both in this, and in all other*

other kinds of acute diseases." I have frequently seen petechial eruptions and purple spots in scorbutic people, without any fever; and in these cases the blood was rather dissolved than fizy. I hardly remember to have met with either in a true inflammation; and indeed they are not common from Christmas to July; but from July to October inclusive, they are very frequent; particularly during the dog-days.

X. "*And sometimes such spots as are termed miliary eruptions, come out all over the body, appearing much like measles, only they are redder; and when they go off do not leave branny scales behind them, as in that disease: though these eruptions do sometimes come out spontaneously, yet they are more frequently driven out by the warmth of the bed, and cordials.*" There are four little eruptions common in fevers, besides petechiæ and purple spots. First, in cases attended with profuse sweat, there is a kind of rash, called *sudamina*, that goes off as soon as the body is exposed to the air. Secondly, there are pimples that come out after coction in many fevers, that contain matter, and form little scabs, which is also one sign of coction. Thirdly, there is the red miliary; and, fourthly, the white miliary eruption.

XI. "*The*

XI. “ *The tongue is either moist or dry, according to the regimen which has been used ; when dry, it is brown in the middle, and white round the edges ; but when moist, it is white and foul.*”
 Something not unlike mustard in colour.

XII. “ *Sweat likewise depends upon the regimen ; for, if that be over heating, it is in a manner viscous, especially about the head ; and though it flows plentifully and universally, affords little relief ; whence it follows, that such sweats are only symptomatic, not critical. The raising a sweat by medicine in the beginning of the distemper, ordinarily translated the morbid matter, if not to the head, at least to the limbs. But when the fever has seized the head, and the frenzy prevailed, the signs of the former vanish, (i. e. the sweat vanishes ; the skin becomes dry and hot ; the mouth becomes parched ; the tongue brown, rough, and hard ; the bowels costive ; or the stools are crude, black, and very offensive ; the urine crude, and of a brownish colour) only the pulse remains sometimes very quick, and sometimes more slow ; at length, however, when the spirits are exceedingly hurried by wrong management, the pulse intermits with starting of the tendons, and death soon follows.*”

In plethoric or sanguine habits, one bleeding, according to the strength of the patient, generally
 takes

takes off spasms, and greatly facilitates the operation of emetics and cathartics. Dr. Grant affirms, that he has never seen a bilious fever go off more kindly than when the patient has been once properly blooded in the beginning. If the patient be young and very plethoric, the physician may be deceived by the smallness of the pulse; because oppression is attended with this symptom in common with inanition. The natural habit of the patient, therefore, is to be considered and compared with the other symptoms; and the effect of the bleeding will be found by the pulse, during the operation.

In the cure of these fevers, Sir John Pringle found it necessary to begin with opening a vein, and to repeat the bleeding, according to the urgency of the symptoms; and this may be safely performed either during the remission, or in the height of a paroxysm. He observes that a physician unacquainted with the nature of this disease, and attending chiefly to the paroxysms and remissions, would be apt to omit this evacuation, and give the bark too soon, which might bring on a continued inflammatory fever; and that to make the maxim of Celsus consistent with this practice, we must interpret his term *impetus febris* to mean that chilliness or cold fit which preceded the hot one in the fevers he describes; for
then

then bleeding would be improper. But as the paroxysms of this fever, after the first attack, were generally without coldness, his caution was not minded; nor any other except the common one, of not bleeding during the sweat.

Sir John Pringle, in his accurate and extensive observation, found it best to give a purge, at any time of the day, immediately after bleeding, and the rather as the patient was generally costive.

R Infusi fenæ communis ℥iii. electarii lenitivi ℥ss.
nitri puri ʒi. tinctura fenæ ʒvi. misce.

The half only was taken at once; and if it did not move the patient twice in four hours, which usually it did not, he then took the remainder. This potion agreed with the stomach, and purged plentifully, and with ease. Next morning, when there was almost always some remission, one grain of emetic tartar was prescribed, rubbed to a powder with twelve grains of crabs-eyes, and the dose repeated in two hours, if the first had little or no effect; at any rate, in four hours. This medicine was intended not only to vomit, but also to open the body and raise a sweat. If these evacuations were obtained, the fever generally became easier, and was even sometimes cured. The medicine was usually repeated next day, or the day following: if not, the body was opened with some mild laxative or clyster; and this method

thod was continued every other day, till the fever went gradually off, or so intermitted as to be cured by the bark.

From repeated experience, Sir John Pringle is persuaded; that after bleeding, if there be occasion for it, the emetic tartar is an efficacious medicine, either for wholly removing, or speedily bringing those fevers to such remissions as will admit of the bark. He adds, that as the virtue of this antimonial does not depend upon its emetic quality alone; but its cathartic also, it must be exhibited accordingly. Thus, in a quart of water dissolve six grains, and of this warm let the patient drink every ten minutes four or five ounces, till he begins to vomit; and then promote the operation by some warm water, or camomile tea; or, if necessary, by going on with the medicine in the same, or smaller doses, or at longer intervals. Commonly when the vomiting stops, the purging begins. But if the latter effect should not be produced, let a clyster be administered; and next day, or when there shall be occasion to repeat the evacuation, dissolve half an ounce, more or less, of one of the neutral purging salts, along with the emetic tartar, in the same quantity of water, to be taken as before. This is a safe, and commonly an easy manner of using that antimonial, which was first recommended by the French, under the title of

l'emetique en lavage, and has been much used by them in such fevers.

Salt of wormwood, saturated with lemon juice, or with the vitriolic acid, was given by Sir John Pringle with a view of bringing the fever sooner to a crisis, or to more regular intermissions; but except when it opened the belly, and thereby cooled, its virtues were little perceptible.

With respect to the bark, this judicious writer observes, that though those fevers have often such fair remissions, and even with a breaking in the water, as might persuade a physician, unacquainted with their nature, that with little or no preparation they would yield to that medicine, yet, for the most part, he would be disappointed. For, though Sir John Pringle has generally seen the paroxysms yield to the bark, yet having often found the breathing affected, or a lurking fever remain after its use, he became at last doubtful whether it were not better to attempt the cure without it, or at least to delay, till, in the convalescent state, the patient required it only as a strengthener. In his opinion there seems to be the less occasion for the bark here, as by bleeding once or twice, clearing the *primæ viæ* by the purge and the emetic, and afterwards by keeping the body open, the paroxysms commonly abate daily, till they quite disappear. But when he

found, that notwithstanding the evacuations the fits became worse, he then had recourse to the bark; and when it was most wanted, he had generally the satisfaction of seeing it most effectual. As the intervals between the end of the sweats and the beginning of the subsequent paroxysms were very short, in order to have the more time for this febrifuge to act, he began to give it two or three hours before the sweat ended. In general, the feverish paroxysm may be considered as over, when the heat and thirst have ceased, and the patient finds himself in a profuse and easy sweat. If ever the fever appeared in a tertian or quartan form, after the usual evacuations, the bark was a sure remedy.

Among the various ways of ordering the bark, he preferred the following. An ounce of the fine powder was infused over night in a pint of Rhenish wine, and next day the turbid mixture was given in divided doses. But for common use, it was made into an electuary, in which, to each ounce of the powder, a drachm of sal ammoniac was added, and occasionally as much rhubarb as kept the body open, for the first two or three days. Afterwards the bark was given alone, till the patient had taken as much as seemed sufficient to prevent a relapse.

If the disease was neglected in the first stage; or, if after remissions or intermissions, it changed into a continued fever, a vein was opened, if the pulse could bear it. At any rate, if the head was affected with pain or delirium, six leeches were applied to the temples, and a large blister between the shoulders. At this time neither strong vomits nor cathartics were given; but gentle pukes, repeated clysters, or some lenient purges were administered. The chief rule was to clear the *primæ viæ*; and for this purpose the emetic tartar, with a purging salt, would probably, Sir John Pringle is of opinion, have been the most effectual medicine.

Sometimes the fever changed into a dysentery. But if a *diarrhœa* came on, though this was never to be stopped suddenly, yet it was often found necessary to restrain it gradually, and to promote a *diaphoresis*. Though a looseness was not the common crisis, yet if nature pointed that way (by colic pains, or a tension of the belly, attended with a dryness of the skin) it was necessary to procure frequent stools by clysters, or some mild laxative, such as an infusion of rhubarb with manna, repeated as often as the patient could bear the evacuation.

Dr. Grant observes that the bilious fever never goes quite off, till the skin becomes soft and moist;

moist; nay, sometimes a true critical sweat has been seen in the end of a bilious fever treated solely by vomiting, purging, and acids, from the commencement to the end. Though the symptomatical sweats in the beginning afford no relief, and therefore ought not to be encouraged, yet the night sweats, after the fever begins to decline, are very serviceable, and may be a little promoted by remaining an hour or two longer in bed (for the patient ought to sit up some hours in the day) after taking some warm liquor, such as an infusion of veronica, or elder-flowers, acidulated with oxymel.

In some bilious fevers, after long and frequent purging, the skin becomes very dry, which always indicates an imperfect crisis, and tedious illness. In such cases good effects have been observed from bathing the hands and feet in warm water, and anointing them afterwards with oil, in the manner of the ancients. This is the period of the fever in which Sydenham recommends an opiate as a restorative, *i. e.* after the fourteenth day. In the beginning of the disease opiates seem not to be advisable; but when it has lasted long, and the patient has been much exhausted by evacuation and low diet, a few drops of the Tinctura Thebaica, at night, has had the effect of quieting the spirits, and promoting a gentle diaphoresis.

phoresis, particularly when joined to camphor, lemon-juice, and calx of antimony.

Sometimes the fever will be carried off gradually in this manner; nor, says Dr. Grant, ought any purge to be given in these circumstances, till there is sediment in the water, and then rhubarb is sufficient; which medicine, he observes, cannot be depended on as a purge in the early part of the bilious fever. At other times the disease will terminate in a formed ague, and then may be treated accordingly.

Of the PUTRID FEVER.

THIS fever chiefly attacks children, women, and weak people. It affects the head, stomach, and loins, as if the small-pox was coming on; attended with an oppression on the breast, sighing, and great faintness. The urine is mostly crude, and lets fall a branny sediment. The blood taken away is not viscid, the tongue not very dry, but appears to be covered with a kind of viscous brownish mucus. Towards the declension of the disease, a looseness, or sometimes a dysentery, especially if a vomit

vomit has been omitted in the beginning, becomes very immoderate, and sometimes even proves fatal. The more perfect the sediment in the water, the greater is the hope of recovery.

From the appellation of this fever some have imagined that it is preceded by a putrefaction of the humours, and requires such remedies as are found by experience to prevent meat from becoming tainted. It received this name however from three considerations. First, because this fever gives a rank and fetid smell to the excrements, sweat, urine, and breath. Secondly, because the blood taken from people labouring under it, is covered, when cold, with a greenish film, in colour resembling tainted meat. But this is the effect, not the cause of the fever. For, if we examine the blood taken at the very beginning of the disease, it is of a bright vermilion colour. When cold, it separates (unless it is exceeding bad) into *crassamentum* and *serum*, still preserves its brightness, and seems good in every respect, except that it is too tender. The third reason why the fever has received the name of putrid, is, because the bodies of such as die of it soon become putrid. On all these accounts, there is doubtless a disposition of the humours to putrescency in this fever, which state, though it cannot be called truly putrid before death, yet in

some cases, approaches it as nearly as is consistent with life. Such a disposition is most frequent in this country in the months of July and August; though there are certain causes which may produce putrid diseases in any season.

In respect to the cure of this fever, Dr. Grant delivers the following rules and observations.

I. Where bleeding is necessary, it ought to be the first evacuation; after which the others are more safe and effectual.

II. Many people require a vomit, because the morbid matter is turgid in the stomach.

III. Purging is always necessary, and an open body throughout the whole ailment.

IV. Sweating before coction is always hurtful, and ought if immoderate, to be abated by mineral acids.

V. The sick ought not to remain in bed during the day, till there appear signs of coction.

VI. All animal food is pernicious before the violence of the disease is abated; but ripe fruit and acids are proper.

VII. All opiates, alexipharmacs, and blisters, are injurious before the pulse subsides.

VIII. Moderate spontaneous sweats during the night are serviceable after coction, and towards the end, if the fever has been well treated from the beginning; but not otherwise.

IX. After

IX. After signs of coction and partial crisis, the bark is useful, especially where the pulse seems sunk, and the mouth is not very dry.

X. When there is an obstinate headach in this species of fever, bleeding relieves more than blistering, or camphor. Blood may be taken by cupping, if the pulse is small.

XI. The drink is to be cold, and clysters warm, and the erect posture is not to be neglected in the day-time.

It has been supposed by theorists, that bleeding before purging might increase the absorption of the *colluvies* in the bowels; but experience has proved, that, on the contrary, it promotes the evacuation by stool.

Purging before coction was also condemned by those who founded their practice on speculation; but this prejudice is also now removed. The maxim *incocta non movenda*, is found to be applicable only to sweating. An open belly is salutary in most fevers, and most stages of fevers; but particularly such as are bilious or putrid.

A third prejudice was, that there was danger in allowing the sick free air, in giving cold drink, and in taking them out of bed. In respect of the two former, the advantage of them in all putrid and bilious cases is now generally acknowledged; but the taking the sick out of bed, and obliging them

them to sit up all day, is not as yet established here, notwithstanding the practice was long since recommended by Sydenham, and lately enforced by Du Haen, in his *Ratio Medendi*.

Where the fever seems to tend towards the head, Dr. Grant strongly urges the expediency of placing the patient in an erect posture. The progress of such a tendency is as follows. First, there is a sense of confusion and weight in the head, with flying, or shooting pains. These become gradually more constant, and at last continual: after which the pain becomes intolerable, and a delirium is then at hand; which being come on, the pain subsides, or at least the patient does not complain of, or seem to feel any; but replies in a hurrying manner, when asked how he does, that he is very well.

In all these cases the patient endeavours to get out of bed, to sit up, or even to walk about from one room into another. But, says Dr. Grant, unhappily the attendants are solicitous to confine him in bed, and to load him with bed-cloaths. Nay, he is frequently kept struggling for three or four days together, with two strong persons lying upon him continually. To prevent all this misery, proceeds the writer abovementioned, I know no method equal to what is here recommended, viz. Let the patient have his cloaths put on, and be placed

placed in an easy chair; let his head be shaven, washed with vinegar, and covered with a linen cap. When he is tired of the erect posture, let him lie along on a couch, or upon the bed, with his head high. Let his diet be cooling, and his body kept open by clysters, repeated occasionally. Let this method be persisted in till the delirium goes off, or till the pulse subsides, and he seems exhausted: then perhaps he will begin to close or slumber in his chair, which will do him no harm. When the tongue is moist, continues Dr. Grant, the body open, the pulse soft, and the patient seems sinking, then, and not till then, let the head be covered with a blister; give him camphor juleps with *spiritus Mindereri*, and diaphoretic antimony.

After these operations, if he is inclined to go into bed, let him lie down; and if he should remain quiet, or fall asleep, or even if a sweat should come on, let him continue in bed; all these portend a resolution of the complaint. But if notwithstanding this treatment the delirium should return with violence, let him again be taken up, and treated as before.

Dr. Grant affirms, that, by this method he has recovered a great number of people where he was permitted to conduct them; and he believes some have perished, by an opposite treatment, that
might

might have been saved. He remarks, that the success of this method of practice is confirmed by the observations of Sydenham, not only in the putrid fevers of summer, the bilious fever of autumn, and the small-pox, but also in the inflammatory fevers of the pleuritic and peripneumonic kinds.

Dr. Fordyce proposes for putrid fevers a remedy, which he affirms to be of sovereign efficacy, either in preventing those disorders, or nipping them in the bud. The following is the medicine he recommends :

R Sal. Polychrest.

Pulv. Rhabarbar. ana drachmam unam. misce.

This dose is ordered to be taken four hours before eating or drinking, out of a dish of any vehicle. When the purging begins, the patient is to drink either lemonade or imperiale; the latter of which is made by dissolving two ounces of cream of tartar in a gallon of boiling water, and sweetening it with syr. cort. aurant. Hispalensium.

Of the JAIL or HOSPITAL FEVER.

THIS fever is generated in places ill-aired and dirty, and which are filled with animal steams from foul or diseased bodies. It is therefore most frequent in jails and military hospitals; the former of which are kept in a constant state of filth and impurity, and the latter are so much infected with the poisonous *effluvia* of sores, mortifications, dysenteric and other putrid excrements. Instances have been known of its beginning in a ward when there was no other cause but one of the men having a mortified limb. Nay, there is reason to apprehend that even when a single person is taken ill of any putrid disease, (such as the small-pox, dysentery, or the like) and lies in a small and close apartment, he may fall into this fever. This Sir John Pringle has actually known to happen in camp, when one has been seized with an illness of that kind, and kept his tent too close. He has observed some instances of a high degree of contagion attending it; but the common course of the infection is slow, and catching to those chiefly who are constantly confined to the bad air, such as the sick in hospitals, and their nurses, and likewise prisoners in jails. When, however, there is no great quantity of infectious matter, where

where a person has not breathed long in such dangerous steams, or when they are not particularly virulent, he will either escape altogether, or sicken so slowly as to give time for stopping the fever before it be quite formed. Much also depends on the constitution: some will have the disorder hanging about them for some days before it confines them to their bed; others will complain for weeks of the same symptoms, without any regular fever; and others, after leaving the infectious place, without the fever, will afterwards be seized with it.

In the history of this disease, we shall follow the account of the accurate and judicious Sir John Pringle, who has treated it with so much precision.

When the distemper comes on slowly, the first complaints are slight interchanges of heat and cold, a trembling of the hands, sometimes a sense of numbness in the arms, weakness of the limbs, loss of appetite; and the disorder increasing at night, the body grows hot, the sleep is interrupted and not refreshing. With these symptoms, for the most part, there is some pain or confusion of the head. The pulse at first is a little quicker than natural, the tongue is white, but the drought is inconsiderable. Those who are thus affected find themselves too much indisposed

posed to go about business, but too well to be wholly confined. In this state, sometimes a vomit, sometimes a change of air, and sometimes a sweat, will remove the disorder.

The disease in the beginning is not easily to be distinguished from any common fever. One of the most usual symptoms is a tremor of the hands; but in order to form our diagnostics, we must take other circumstances into consideration. We are to inquire, whether the person has been exposed to the ordinary causes of fevers, or to foul air and infection. Likewise, if he has been bled, whether he has received any benefit from the evacuation; because in inflammatory fevers, bleeding generally moderates all the symptoms, but in this it seldom has that effect.

As the fever advances, the symptoms above-mentioned increase, and in particular the patient complains of lassitude, of a nausea, pains in the back, a more constant pain and confusion in the head; and these signs are accompanied with an uncommon dejection of spirits. At this time the pulse is never sunk, but beats quick, and often varies in the same day both as to strength and fulness. It is little affected by bleeding once, if a moderate quantity of blood be taken away; but if the evacuation is large, and especially if repeated, from an erroneous opinion that
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the disease is inflammatory, the pulse, increasing in frequency, is apt to sink in force, and often irrecoverably, whilst the patient becomes delirious. In every case, however, independent of evacuations, the pulse sooner or later sinks, and affords certain intelligence of the nature of the disease.

The appearance of the blood is various; for though it is commonly little altered, yet sometimes it will be fizy, not only on the first attack, but after the fever is formed. The worst appearance is when the *crassamentum* is resolved; though this does not happen till the advanced state of the fever.

The urine is also various. Sometimes it is of a reddish or flame-colour, which it preserves a long time; but it is oftener pale, and changes from time to time in colour as well as crudity, being sometimes clear, sometimes clouded. Towards the end, upon a favourable crisis, it becomes thick, but does not always deposite a sediment.

If the sick lie warm, and have had no preceding flux, the body is generally bound; but when they lie cold, as is often the case in field-hospitals, the pores of the skin being shut, a diarrhæa is a common symptom, but is not critical. In the worst cases a flux appears in the last stage;

stage; then the stools are involuntary, colliquative, ichorous, or bloody, and have a cadaverous smell; the effects of a mortification of the bowels, and the sign of approaching death.

In the beginning the heat is moderate: even in the advanced state, on first touching the skin, it seems inconsiderable; but upon feeling the pulse for some time, there is perceived a great heat, which leaves an unpleasant sensation on the fingers for a few minutes after. A day or two before death, if care be not taken, the extremities become cold, and the pulse is then hardly to be felt.

The skin is generally dry and parched, though sometimes there are sweats of shorter or longer duration, especially in the beginning. Such as are produced by medicine are of no use, except on the first attack, at which time they will often remove the fever; but such as are natural are never critical till the disease begins to decline. The latter are rarely profuse, but gentle, continued, and equally diffused over the body. Sometimes the disease will terminate by an almost imperceptible moisture of the skin. The sweats are usually fetid, and offensive even to the patient.

The tongue is mostly dry, and without constant care of the nurse, becomes hard and brown, with deep chops; but this symptom is common

to most fevers. At other times, though rarely, the tongue will be soft and smooth to the last, but with a mixture of a greenish or yellowish colour. The thirst is sometimes great, but more frequently moderate. In the advanced state the breath is offensive, and a blackish furring gathers about the roots of the teeth.

Some are never delirious, but all lie under a stupor or confusion. Few retain their senses till death; many lose them early, and from two causes, viz. either immoderate bleeding, or the premature use of warm and spirituous medicines. They rarely sleep, and, unless delirious, have more of a dejected and thoughtful look than is common in other fevers. The face is late in acquiring either a ghastly, or a very morbid appearance; yet the eyes are always muddy, and generally the white is of a reddish cast, as if inflamed. The confusion of the head often rises to a delirium, especially at night; but unless by an unseasonable hot regimen, it seldom turns to rage, or to those high flights of imagination frequent in other fevers. When the delirium arrives at that height, the face is flushed, the eyes are red, the voice is quick, and the patient struggles to get up. But when that symptom is owing to large evacuations, or to the advanced state of the disease, the face appears meagre, the
eye-lids

eye-lids in slumbers are only half shut, and the voice, which is commonly slow and faint, sinks to a degree scarce to be heard. From the beginning there is generally a great dejection of mind, and a failure of strength.

A tremor of the hands is more common than a starting of the tendons ; or if the latter occurs, it is in a less degree than in other fevers. In every stage of the disease, as the pulse sinks, the delirium and tremor increase ; and in proportion as the pulse rises, the head and spirits are relieved. Sometimes in the beginning, but for the most part in the advanced state, the patient grows dull of hearing, and at last almost deaf.

When the fever is protracted, with a slow and faint voice, the sick have a particular craving for something cordial ; and nothing is so acceptable and so cordial as wine. They long for no food, though they willingly take a little panada, if wine be added. But such as are delirious, with a quick voice, wild looks, a *subsultus tendinum*, or violent actions, though their pulse be sunk, yet bear neither hot medicines, wine, nor the common cordials.

Vomiting, and complaints of a load and sickness at the stomach, though usual symptoms, are not essential to the disease ; neither are pleuritic stitches, difficulty in breathing, or flying pains,

to be referred so much to it, as to the constitution of the patient, or to a preceding cold.

An eruption, which is a frequent, but not inseparable attendant of this disease, is a petechial efflorescence, sometimes of brighter, or paler red, at other times of a livid colour, but never rises above the skin. The spots are small, but generally so confluent, that at a little distance the skin appears only somewhat redder than ordinary, as if the colour were uniform; but, upon a nearer inspection, interstices are observed. For the most part, this eruption is so little conspicuous, that, unless looked for attentively, it may escape notice. The spots appear thickest on the breast and back, less on the arms and legs, and scarcely ever upon the face. Sometimes they appear so early as the fourth or fifth day, and at other times so late as the fourteenth. They are never critical, nor are they reckoned among the mortal symptoms, but only concur with other signs to ascertain the nature of the disease. The nearer they approach to a purple, the more they are to be dreaded. In some cases, instead of spots, have been observed purple streaks and blotches, which perhaps are yet a worse symptom. The *petechiæ* will sometimes not appear till after death.

This fever, though accounted one of the continued kind, yet has generally some exacerbation

tion at night, with a remission, and often partial sweats, in the day; and after a long continuance, it is apt to change into a hectic, or an intermitting form.

The length of the disease is uncertain. It has been known to end either in death or recovery in seven days from the time the patient took to his bed; but in the hospitals it generally continued from fourteen to twenty; and some died, or recovered, after four weeks. From the time of the sinking of the pulse until death, or a favourable crisis, there is perhaps less change to be observed from day to day in this, than in most other fevers. When its course is long, it sometimes terminates in suppurations of the parotid, or axillary glands; and when these do not appear, it is probable that the fever is kept up by the formation of some internal abscess. Many after the crisis complain of a pain in their limbs, and want of rest; and almost all of them of great weakness, confusion in the head, vertigo, and a noise in the ears.

Those who have been weakened by previous diseases, or other accidents, are more susceptible of the infection than the strong and vigorous, and also run greater risk. Such as are taken into crowded hospitals, ill of the small pox, however mild the sort may be, fall readily into

this fever, and are more apt to die of it. A convalescent is as liable to a relapse, as he was at first to be seized with the distemper ; but it has not been observed, whether such as have had abscesses are as liable to relapse as others. The second fever is attended with double danger, as the patient has been weakened by the first.

The following are generally reputed favourable signs in this disease, viz. to have little delirium ; the strength little impaired ; turbid urine in the decline of the disease ; and at that time, a gentle sweat or moisture diffused over the body ; or even the skin soft and the tongue moist ; or to have loose stools, succeeded by a diaphoresis ; the pulse to rise by wine or cordials, with an abatement of the stupor, tremor, and other affections of the brain. Deafness is rather a good sign. A sediment in the urine, without other changes to the better, is no sure mark of recovery ; and some have recovered in whose water no sediment was seen.

The bad signs are a *subfusius tendinum* ; the eyes much inflamed and staring ; the speech quick, and the sound of the voice altered ; a high delirium ; constant watchfulness ; perpetual sickness at the stomach, and vomitings ; frequent stools, with a sinking pulse, and the disorder of the head increased ; coldness of the extremities ; and a tremulous motion of the tongue. It is
observed

observed to be among the worst signs, when the patient complains of blindness; when he swallows with difficulty; or cannot put out his tongue when desired; when he can lie on his back only, and pulls up his knees; or when insensible, he endeavours to uncover his breast; or makes frequent attempts to get out of bed, without assigning a reason. If to any of these are added ichorous, cadaverous, and involuntary stools, it is a sign of a mortification of the bowels, and approaching death.

In treating of the cure of this disease, Sir John Pringle distinguishes the fever into three states; and proposes, in each of them, the remedies which he found from experience to be best. The first continues as long as the person is able to go about; the second begins with his confinement when the fever is manifest; the head in some degree affected, but the pulse still full; and the third, when the pulse sinks, and a stupor comes on, with the other symptoms already described.

I. In the first state, as well as in the rest, the primary part of the cure is to remove the patient out of the foul air, if in such he be situated. When this cannot be done, the apartment is to be purified, by making a succession of air by means of fire, or letting it in by doors and windows, diffusing the steams of vinegar, or

the like; for whatever medicines are given while the corruption of air continues, or indeed increases by the *effluvia* of the sick, there can be little hope of recovery. In every stage, therefore, though the patient should breathe no other infectious air but that of his own atmosphere, it will be necessary, if the bed has curtains, to keep them open, and use all other means to procure a free ventilation. On the strict observance of this rule, the cure will much depend.

For the next article of prevention, Sir John Pringle gave a vomit; and that night, after its operation, half a dram of theriaca, with ten grains of sal cornu cervi, and some draughts of vinegar-whey; and he repeated the same, without the emetic, the following evening. Sometimes he used the sudorific alone; and by both methods he has seen those symptoms removed, which he apprehended to be the fore-runners of this fever received by contagion.

As the prevention depended so much upon a free diaphoresis, he found it conducive to that end, especially with the less cleanly sort, to have their feet and hands washed with warm vinegar and water. After sweating, if the patient was to remain in the foul air, he used as a preservative, a decoction of the bark and snake root.

II. But

II. But in the second state, when the fever was manifest, if the pulse was full, he generally ordered some blood to be taken away, if that was not done before. When the symptoms ran high, a plentiful evacuation of that kind seemed indicated; yet he observed that large bleedings generally did harm, by sinking the pulse, and affecting the head. Nor was a moderate bleeding to be repeated without caution. For as several circumstances here were different from those of common fevers, experience shewed, that even patients whose blood was fizy, unless their lungs were inflamed, were the worse for a second bleeding. If the head only suffered, he judged it safer to bleed by leeches at the temples, than to open a vein in the arm. But in the delirium, with a sunk pulse, even leeches did no good; nay, sometimes he imagined they were hurtful, and therefore phlebotomy was not to be tried. Many recovered without letting blood, but few who lost much of it.

Vomits are also to be cautiously used. Before the disease was formed, Sir John Pringle recommended one for prevention; and even if the stomach was foul, an emetic was believed to be proper in the beginning of the second period also, in order to relieve that organ, and dispose to perspiration. All such patients as were not in
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the lowest state, but complained of a head-ach, costiveness, and a disorder at their stomach, he first bled, then purged; and afterwards proceeded in the manner prescribed in the bilious fever. He gave them twice a day a grain of emetic tartar, which commonly not only puked, and opened the body, but the pores of the skin also. Those who were treated in this manner recovered. But in the advanced state of the fever, when the patient had all along complained of a sickness at his stomach, Sir John judged emetics to be unsafe, from having, in two instances, seen the disease take suddenly a worse turn, when in that circumstance he had ordered a vomit of ipecacuanha. He informs us at the same time, that he cannot recommend any other remedy, sufficiently ascertained by experience, for this purpose. But in other fevers which he has treated since, and which by a constant nausea shewed some similarity to this, he has frequently conquered that complaint, by prescribing the saline draughts of Riverius in the act of effervescence, but repeated oftener than is commonly practised by others. The following was his formula :

R Sal. absinthii ℥iv. Sacchar. alb. ℥ii. solve in aquæ puræ ℥iv. & admisce aquæ cinnamomi simp. ℥ii. Dentur omni hora cochlearia iii. cum cochleario uno succi lemonum, donec æger nauseare desierit.

Previ-

Previously to this medicine, he sometimes made the patient clear his stomach by drinking some camomile tea; at other times, he has omitted that infusion; but when costive, has usually begun with prescribing a laxative clyster, which he caused to be repeated every day, or frequently, if the patient had not otherwise stools.

His next care was to promote perspiration, which, in this state of the fever, was attempted only by the cooler diaphoretics; and for that purpose the spiritus Mindereri was chiefly used. But at this time of the disease, the morbid cause was generally too much fixed to be expelled by the pores of the skin; and therefore unless a sweat came easily, and with relief to the patient, it was never insisted on; nay, if voluntary and profuse, with a low and quick pulse, he thought proper to check it. Then the fever began to elude the force of blisters, alexipharmacs, and sudorifics, until the usual time of its decline.

As soon therefore as the fever was confirmed, he used such medicines only as have been recommended in the cure of inflammatory fevers, viz, the contrayerva-powder, with nitre and camphor, and barley-water acidulated with vinegar.

Costiveness was prevented by clysters, lest an accumulation of the fæces should prove a new source of corruption; but a looseness was not encouraged,

encouraged, on account of the great weakness attending the disease.

About this time Sir John Pringle has used blisters, but without success. Nay, upon the first attack the whole head has been blistered, and the oozing kept up for some days; but without relieving the brain, or preventing any of the usual symptoms.

III. We now proceed to the third and longest state, in which the pulse sinks, the stupor is great, a delirium is threatened, and petechiæ often appear. This change begins in three or four days after the fever is formed, often later, according to the treatment and other circumstances. But, what is observable, if the patient had been once or twice largely bled, on the first symptoms, he would sometimes pass over the second stage, and from a condition little removed from health, his pulse would be apt to sink, and he suddenly become delirious. On this account, Sir John Pringle found it necessary to vary his method, and to have for his principal intention the support of the *vis vitæ*, especially towards the decline of the fever; but which could not be answered without some warmer medicines than those which have yet been mentioned. As soon therefore as the pulse began to sink, and the urine to turn pale, he omitted the nitre in the diaphoretic powders, and

and substituted ten grains of the Virginian snake-root.

Sometimes he has given a plain decoction of the root, adding a small quantity of some spirituous liquor. At other times he has prescribed it in substance, from two scruples to a drachm every day, and with good effects; but he afterwards discovered the advantage of joining the bark to the snake-root in the advanced and sunk state of the fever. His prescription was thus:

R Corticis Peruviani in pulverem contriti ꝑiii. coque ex aquæ fontanæ ꝑxvi. ad ꝑvii. adjectis sub finem coctionis radicis serpentariæ Virginianæ contusæ ꝑii. stent per horam, dein colaturæ admisce aquæ alexetiriæ spirituosæ cum aceto ꝑii. sacchar. alb. ꝑss.

Of this the dose was four spoonfuls every six hours, but if the patient seemed to be heated, he took only three. If he was lower than usual, Sir John ordered the larger quantity once in four hours; thus giving the decoction at shorter or longer intervals according to the circumstances. Sometimes he has lessened the proportion of the serpentaria, and the strong water, when he imagined they might prove too heating.

In one case the fever terminated in an abscess upon one of the parotid glands, which was
 3 opened,

opened, and healed during the use of the same medicine.

It was likewise often found proper to give a volatile cordial, in this manner :

R Aquæ fontanæ ℥vi. aquæ nucis moschatae ℥i.
confectionis cardiacæ ℥iis. salis cornu cervi ʒss.
syrupi croci ʒss. misce.

Dentur subinde in languoribus cochlearia ii.
vel. iii.

This quantity was commonly consumed in twenty-four hours. But in cases out of the hospital, and where wine was to be had in plenty, he either omitted this mixture, or used it more sparingly. In general, it agreed well with the low state of these fevers; and in great sinkings, which either followed unseasonable bleedings, or long want of nourishment, it was, next to wine, the best resource. As a great and efficacious cordial at this time, there was nothing comparable to wine.

Sir John Pringle observes, that perhaps there is no rule more necessary in this state, than not to let the patient, when low, remain long without taking something cordial or nourishing; having seen men, once in a promising condition, sink beyond recovery, by being suffered to pass a whole night without any support, about the time of the crisis. In the advanced state of this fever, the sick are remarkably

markably low; and therefore Hoffman advises, in such cases, that they should be kept constantly in bed, and not be permitted even to sit up in it.

But however necessary wine, and the decoction abovementioned, are in the low state of the fever, it is to be remembered, that throughout this long stage, the remedies are to be administered only as antiseptics, and supporters of the *vis vitæ*; without aiming at thoroughly raising the pulse, effectually relieving the head, or at forcing a sweat by them, till nature points that way; which is seldom known to happen before the fourteenth day. For though the patient may die before this period, if he has been largely bled, or if the cordial medicines have been given him too freely, yet such means as Sir John Pringle has used did not bring on a crisis sooner.

If the delirium increased upon using wine, if the eyes looked wild, or the voice became quick, there was reason to apprehend a phrenitis; and accordingly Sir John Pringle observed, that at such times all internal heating medicines aggravated the symptoms; whilst blisters, which were before useless, became of service. In these circumstances, therefore, he began to order them, as in the inflammatory fevers. He had no opportunity of trying, in the delirium of this distemper, the fomentations of warm water and vinegar for the

the feet, which he has since found to be efficacious in other fevers ; but he is inclined to believe, that in this case also, they would answer better than either sinapisms or blisters, provided they were long enough, and often enough applied. In this case likewise, he omitted the decoction for some time, but continued the acid drink, viz. barley-water with vinegar, and gave camphor with the pulvis contrayervæ compositus and nitre, as before. If the delirium was accompanied with a slow voice, and without violent motions, the decoction of wine was given, without any other medicine ; for in no instance was this symptom quite removed until the usual time of the crisis. He observed that a delirium would arise from two opposite errors ; one, from large and repeated bleedings ; and the other from wine and the cordial medicines being taken too early. It appears therefore how nice the principles are which regard the cure : neither a hot, nor a cool regimen, will answer with every patient, nor in every state of the disease.

If a diarrhœa came on in the decline of the fever, it was moderated, and not suppressed, by adding a few drops of the tinctura Thebaica to the full quantity of the electipharmac decoction ; or by giving some spoonfuls of the chalk-julep with opium. For though the looseness may be considered

considered as critical, yet as the sick are too low to bear great evacuations, it must in some measure be restrained. When it has been treated in this manner about the usual time of the crisis, the patient has fallen into a gentle sweat, which has carried off the disease. In the worst cases of this fever, especially when it coincides with the dysentery, the stools are frequently bloody; in which dangerous state, if any thing could be done, it was attempted by the same medicines. In proportion to the putrid nature of the stools, opiates and astringents were used with the greater caution.

If the disease terminated in a suppuration upon one of the parotid glands (for the gland itself does not suppurate) the abscess was opened without waiting for a fluctuation, which might never happen; the *pus* being often here so viscid, that after it was ripe, the part felt nearly as hard as if the suppuration had not begun.

Almost every patient, after the fever, complained of want of rest, frequently of a vertigo, or confusion of the head, of a continuance of the deafness, or of other symptoms commonly called nervous. Sir John Pringle then ordered an opiate at night, and in the day some strengthening medicines, such as the bark, and the elixir of vitriol. He found that in those cases the bark was not

only the best strengthener, but the surest preservative against a return of the fever. For the latter intention, he ordered the convalescent about three drachms a day, for six or seven days together, and afterwards a smaller quantity daily. When the pulse was slow, a few grains of *asa foetida*, taken twice a day, have had a good effect. But if there was any appearance of a hectic fever, from an inward abscess, the case was treated accordingly.

Sometimes the patient falls into an irregular intermittent, which, if not of a hectic nature from an internal abscess, may proceed from neglecting to clear the *primæ viæ*. For it is easy to conceive, that after a long fever of so putrid a nature, often attended with a languor of the bowels, the *feces* may be so much accumulated, and so corrupted, as to occasion new disorders. In such circumstances, after proper evacuation by a purge, the bark was almost a sure remedy.

In the account of this fever, so fully elucidated by modern practice, we have chiefly followed the valuable observations of Sir John Pringle; but the disease has also been accurately treated by Dr. Huxham, and other writers, who universally agree in opinion concerning the nature of this fever, and the method of cure.

Of AGUES.

MANY useful observations relative to this disease have been made by the judicious Dr. Lind, who in a variety of instances has so much improved the medical art. Physicians are now generally agreed that very little preparation of the body is requisite, previous to the administration of the bark in intermitting fevers. It is sufficient to cleanse the stomach and alimentary canal by an emetic or purge. When there is any nausea or sickness, six or eight grains of ipecacuanha may be given; but when these symptoms do not attend, it seems preferable to give a stomachic purge, such as an ounce or two of tinctura sacra, or a few grains of the pilulæ Rufi. These are to be administered in the intermission, immediately after the fever has ceased, so that their operation may be over before the return of the fit. When their operation is completed, the bark may be given with perfect safety. If the paroxysm be moderate, we need not have recourse to the febrifuge till a second fit has evinced the true nature of the disease; but if it prove severe, there is often an absolute necessity of administering the bark upon the first intermis-

sion of the fever, and even with hardly any preparation of the patient.

It is an opinion with many that no remedy ought to be used in an ague before the disease is completely formed, but this erroneous doctrine is refuted by daily experience. An ague cannot be stopped too soon; and the more severe the disease, the greater is the necessity of such procedure; as the constitution is always found to suffer least, where the ague is easily removed. Some confine this prejudice only to the exhibition of the bark; referring to that medicine all the bad symptoms which are the natural consequences of the continuance or malignity of the disease. But most of the prejudices entertained against this febrifuge appear to be founded on imperfect observation, and proceed from not distinguishing the effect of the remedy from those of the disease.

The advantage of administering the bark as early as possible, was fully ascertained by the author abovementioned in 1765, and the two following years, during an uncommon prevalence of remitting and intermitting fevers. When the ague was stopped by the bark immediately after the first or second fit, which was the case with two hundred of the doctor's patients as well as himself, neither a jaundice nor
dropsy

dropſy enſued : whereas when the bark could not be adminiſtered, on account of the imperfect remiſſion of the fever, or when the patient had neglected to take it, either a dropſy, jaundice, or conſtant head-ach, were the certain conſequences ; and the violence of the diſeaſe was in proportion to the number of the preceding fits, or to the continuance of the fever. By every paroxyſm the dropſical ſwellings were viſibly increaſed, and the colour of the ſkin rendered of a deeper yellow.

When the fever continued a few days without remiſſion, the belly and legs generally ſwelled ; a violent head-ach and verrigo likewise, for the moſt part, diſtreſſed the patient ; ſo that ſome, even after the fever had left them, were not able to walk acroſs their chamber for a fortnight or three weeks.

When the returns of the fever were perfectly regular, and even but ſlight, four or five fits of a ſimple tertian were ſometimes followed by the moſt dangerous ſymptoms ; eſpecially in the year 1765, when theſe fevers raged with the greateſt violence.

If, as frequently happened, a dropſical patient ſuffered a relapſe into the ague, there was an abſolute neceſſity for putting an immediate ſtop to it by the bark ; and in above ſeventy ſuch patients Dr. Lind never obſerved any other than

the most beneficial effects to accrue from this method.

He never prescribed the bark until the patient was free from all symptoms of the fever ; but in that case, without regard to a cough, or any other chronical indisposition, he ordered it to be given in large doses. He has given the bark in every circumstance attending intermittent fevers, but never in the paroxysm.

It is observed that the bark often fails in removing intermittent fevers, from not continuing the use of it a sufficient length of time, from administering it in too small a dose, or from giving it in an improper form.

In respect of the first of these circumstances, it is a prevailing opinion, that an ounce, or an ounce and a half of the bark, taken during one intermission, is sufficient to prevent the return of another paroxysm. But this is not always the case ; for a severe fit will often attack a patient who has taken such a quantity. When this happens, the patient ought to persevere, during the following intermissions, with an increase of the dose, until five or six ounces at least have been taken. The medicine ought also not to be omitted as soon as one fit is stopt, but should be continued in a smaller dose for at least ten days or a fortnight. Even for several months after
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the disease is entirely removed, it would be advisable to take a little bark occasionally in damp weather, or during an easterly wind, to prevent a relapse.

The bark is often given in too small doses. Where the intervals between the fits are short, as in quotidians and double tertians, from one drachm to two drachms of it ought to be taken every two or three hours.

The form in which this medicine is administered is of some consequence. Mucilages and syrups have been recommended to conceal the taste of it; but, from various experiments, Dr. Lind has found nothing more effectual for that purpose than small beer or milk, especially the latter. A drachm of bark mixed with two ounces of milk, and quickly drank, may easily be taken by a person of the most delicate taste; and by washing the mouth afterwards with milk, there will not remain the least flavour of the bark. If the mixture be not drank immediately, the bark will quickly impart to the milk a bitter taste.

The bark is commonly given in electaries or bolusses; but Dr. Lind observes, that in these forms it proves much less efficacious than when administered in juleps or draughts, with the plentiful addition of wine or spirits. He has re-

marked that fix drachms of powdered bark, given in a julep, consisting of one fourth or one third of brandy, is as effectual as an ounce of the powder, in the form of an electary, and proves less disagreeable to the stomach. For patients unaccustomed to wine or spirits, each draught should be warmed with the spiritus salis ammoniaci, or with the tinctura myrrhæ; both which increase the efficacy of the bark. Many have imagined that the virtues of the bark are assisted by the radix serpentariæ & sal absinthii; some by the elixir vitrioli, or tinctura rosarum; and others by camphor, cinnabar, warm stomachics, and steel; but Dr. Lind being thoroughly convinced that the virtues of the bark are much improved by wine or spirits, he seldom prescribed with it any of the abovementioned ingredients, which might render it more disagreeable and nauseous.

When the bark is entirely nauseated, from a weakness of the stomach, or from an aversion of the patient to that medicine, it is advisable to leave off the use of the draughts, and to give the febrifuge in clysters, in which form our author has found it as effectual as when given by the mouth. In this case, after the operation of a cathartic clyster, a solution of the extractum corticis Peruviani will be found most proper, with
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the addition of a sufficient quantity of the tinctura Thebaica, in order to its being longer retained; a small quantity of opium being commonly found effectual to prevent the bark, in in any form, from purging.

An obstinate intermitting fever, which two ounces of the bark in draughts, taken in each interval of a fit, had failed to remove, was effectually cured by two ounces of the extract given in clysters. This preparation has been administered in clysters to the quantity of six ounces, to patients who could not have received half an ounce of the bark in any other form; and many have been cured by clysters, after large quantities of the bark had been unsuccessfully taken by the mouth; it being in this manner that the largest quantities of the bark can be administered.

For children labouring under intermitting fevers, and who are utterly averse to medicines that have a disagreeable taste or smell, Dr. Lind orders the spine of the back to be anointed, at the approach of the fit, with a liniment, composed of equal parts of tinctura Thebaica and linimentum saponaceum, which has often prevented it. If this should not produce the desired effect, he informs us that two or three tea-spoonfuls of syrupus e meconio, given in the hot fit, will generally

nerally be found to mitigate the symptoms. But for the entire removal of the disease, after purging with *magnesia alba*, he prescribes a drachm of the *extractum corticis Peruviani*, with a few drops of *tinctura Thebaica*, in a clyster, to be repeated every three hours, for a child of about a year old. When the stomach is oppressed with phlegm, the *magnesia* often occasions vomiting, which should be promoted with warm water. The constant heaviness of the head, occasioned by these fevers, in such tender constitutions, proceeds most probably from a pain fixed there, and is best relieved by the application of a blister to the back.

The bark has also been successfully administered to children who had intermitting fevers, in a quilted waistcoat. This method was invented by Doctor Samuel Pye, and several cases in confirmation of its efficacy are related in the second volume of *Medical Observations and Inquiries*. The first of these is as follows:

“ Dec. 3, 1740, I was sent for to a son of Capt. H——t, of Mile-End, about four years old, of a healthful constitution, who had, for some time, laboured under a fever, attended with so violent a cough, that more danger was apprehended from thence than from his fever. Having
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ing visited him two or three days, I found the symptoms of the fever greatly abated; and in consequence of such a remission, the cough was become very little troublesome. In this interval I ordered the bark; but not being able to get down more than one dose, and the cough, together with the fever, having returned, with as much violence as ever, I thought this a good opportunity to try the efficacy of an external application of the cortex. I directed a piece of Holland to be cut out in the form of a waistcoat (without sleeves); and for the lining, a kind of callico, of an open texture, known to the ladies by the name of callico wrapper. Between these cloths were quilted four ounces of bark, grossly powdered. As soon as this last fit of the fever, and the cough, was considerably abated, the waistcoat was put on the child's naked body. The next day there was not the least return of any symptom of the fever; the cough was gone; and the child had no complaint to make, except some uneasiness from the grosser particles of the bark. I therefore ordered another waistcoat to be made, with the powder as fine as if for internal use. This the child wore for a week; when it was renewed, and worn for seven days more. From the first application of the medicine in this manner, without

without any other remedy, my patient was recovered to perfect health."

Of between four and five hundred patients, afflicted with remitting or intermitting fevers, under the care of Dr. Lind, in the year 1765, he lost only two, neither of whom had taken the bark. His method of treating those patients will appear from the two subsequent cases :

"A young gentleman was seized with a fit of an ague, and in half an hour afterwards became delirious, then comatose, and at length speechless. Finding him in this state, I ordered a blister to be applied to his back, and a cordial julep with salt of hartshorn to be poured into his mouth. In two hours afterwards, upon recovering his senses, I ordered him two ounces of tinctura sacra, and then, without waiting for the complete effect of that medicine, half a drachm of the bark to be taken every four hours, as soon as the fever and sweat had abated. He began the use of the bark three hours after he had taken the tinctura sacra; but before he had taken five drachms of it, he was seized with a second fit, and in like manner became delirious, comatose, and speechless. Sinapisms were applied to his feet, and other irritating applications used, until the fever was terminated by a plentiful sweat. Thus having twice narrowly escaped dying in
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the fit, a drachm of the bark was ordered to be taken punctually every hour. He soon took two ounces of it; which produced so happy an effect, that the fever left him entirely, without any subsequent symptoms of dropsy, jaundice, violent head-ach, or weakness, which either the continuance of the fever, or its repeated attacks, often brought upon others; so that he was quickly restored to perfect health."

"A lady, on the first attack of an intermitting fever, was seized with a violent pain in the stomach. Every subsequent fit increased the pain, insomuch that at length it became intolerable, was attended with a violent delirium, and brought on a great difficulty of breathing, a hiccup, a ghastly countenance. and the symptoms of approaching death. As she found no benefit from emollient fomentations, from the external application of tinctura Thebaica, or even from a blister, I ordered two ounces of the bark to be taken during the intermission; which effectually prevented the return of the fever. This medicine did not in the least increase the pain in the stomach, but greatly contributed to its relief, by removing the fever, every fit of which had so exasperated its violence."

In all those intermitting fevers a vomit was administered, whenever the patient complained of
a sick-

a sickness at the stomach, reachings to vomit, or a spontaneous vomiting ; and the bark was never given till this sickness was removed, or a purgative taken, to clear more perfectly the whole alimentary canal.

In those patients who laboured under a cough, attended with a pain in the side affecting the breathing, when the pain was not relieved by warm fomentations, the Balsamum Anodynum Batæi, or by a blister, Dr. Lind generally ordered a few ounces of blood to be taken away, and endeavoured to stop the fever as soon as possible, by the administration of the bark ; having found that every return of the fever increased all such pains.

When the head-ach was very violent, and harassed the patient, during the intermissions, the success of the bark was rendered more complete, by the application of a blister to the back.

A giddiness of the head, which is the symptom most commonly remaining after even a slight intermitting fever, was generally relieved by the sal cornu cervi, and the bark in wine. The former of these was administered in the following manner.

R Aquæ alexeteriæ simp. ℥vii. sal cornu cervi ʒfs.
 syrupie corticibus aurantiorum ʒi. M. f. julepum.
 Capiat cochlear. duo subinde.

If,

If, from the continuance of the fever, the patient was distressed with flatulence, a distention of the abdomen, and a swelling of the legs, a spoonful of *tinctura sacra*, with the addition of thirty drops of the *spiritus lavendulæ compositus*, was ordered to be taken every night.

A continuance of the bark, a change of air, and the cold bath, were often found requisite to prevent a relapse.

Such is the method of cure recommended by this experienced author, who has also discovered the efficacy and success of opium in intermitting fevers. This discovery, he informs us, was owing to the following accident.

In the month of December 1766, a lady, after some days indisposition, was seized with a violent fit of an ague, which left her very weak, and universally disordered. In thirty-six hours afterwards the fit returned; which had continued twelve hours, when the doctor was called to visit her. At this time her strength and spirits were so much exhausted, that she began to despair of recovery. She complained of an universal pain over the body, but chiefly in the head and back. The head-ach was so intolerable as to threaten a delirium. A constant reaching and vomiting at the same time reduced her to a state of insensibility, accompanied with a strong tendency to convulsions.

vulsions. Finding her in this condition, Dr. Lind immediately prescribed an opiate, which in less than five minutes restored her to a state of perfect ease and tranquillity. In less than half an hour she sat up in her bed, and could take nourishment. All that night she slept little, though she had no other complaint but weakness and fatigue. Next day, by taking the bark, which effectually prevented the return of the fever, she quickly recovered her former strength. About a month afterwards she suffered a relapse. The intermissions of the fever were short and indistinct. When the Doctor was called, she had laboured under it forty-eight hours, and most of the former violent symptoms had already appeared. As she was very hot and feverish, and had no vomiting, he was at first unwilling to give an opiate, until, by her earnest solicitations, he at length consented to it. This medicine again brought on a perfect intermission, and gave her immediate relief from all those distressing symptoms. Next day she had recourse to the bark, and continued in perfect health; using, for some time afterwards, the precaution of taking the bark once or twice a day during moist weather, or when the wind was easterly, and particularly at the full moon.

Observing the febrifuge effects of this medicine, Dr. Lind determined to make a farther trial of it. Having at that time twenty-five patients labouring under intermitting fevers, he prescribed for each of them an opiate, to be taken immediately after the hot fit, provided the patient had any inquietude, head-ach, or similar symptom usually subsequent to the fever. The consequence was, that nineteen in twenty-two received immediate relief; the other three had no occasion to take it. Encouraged by this surprising success, he next day ordered the opiate to be given during the hot fit. In eleven patients out of twelve, to whom it was thus administered, it removed the head-ach, abated the fever, and produced a profuse sweat, which was soon followed by a perfect intermission.

Since that time he informs us that he has prescribed an opiate to upwards of three hundred patients labouring under this disease; and he observed, that if taken during the intermission, it had not the least effect, either in preventing or mitigating the succeeding paroxysm; when given in the cold fit, it once or twice seemed to remove it; but when given half an hour after the commencement of the hot fit, it generally gave immediate relief.

Dr. Lind observes, that the effects of opium given in the hot fit of an intermitting fever, are—1. It shortens and abates the fit; and this with more certainty than an ounce of bark is found to remove the disease. 2. It generally gives a sensible relief to the head, takes off the burning heat of the fever, and occasions a profuse sweat. This sweat is attended with an agreeable softness of the skin, instead of the burning sensation which affects patients sweating in the hot fit, and is always much more copious than in those who are not under the influence of opium. 3. It often produces a soft and refreshing sleep to a patient tortured in the agonies of the fever, from which he awakes bathed in universal sweat, and in a great measure free from all complaints.

He has always observed that the effects of opium are more uniform and constant in intermitting fevers than in any other disease, and are then more quick and sensible than those of any other medicine. An opiate thus given soon after the commencement of the hot fit, by abating the violence, and lessening the duration of the fever, preserves the constitution so entirely uninjured, that since he used opium in agues, a dropsy or jaundice has seldom attacked any of his patients in those diseases.

When

When opium did not immediately abate the symptoms of the fever, it never increased their violence. On the contrary, most patients reaped some benefit from an opiate given in the hot fit; and many of them bore a larger dose of opium at that time than at any other. Dr. Lind assures us, that even a delirium in the hot fit is not increased by opium; though opium will not remove it. Hence he thinks it probable, that many symptoms attending those fevers are spasmodic, but more especially the head-ach. If the patient be delirious in the fit, the administration of the opiate ought to be delayed, until he recovers his senses; when it will be found greatly to relieve the weakness and faintness which commonly succeed the delirium.

Dr. Lind is of opinion, that opium, in this disease, is the best preparative for the bark, as it not only produces a complete intermission, in which case alone that remedy can with safety be administered; but occasions so salutary and copious an evacuation by sweat, as generally to render a much less quantity of bark requisite.

He commonly prescribes the opiate in about two ounces of *tinctura sacra*, when the patient is costive, who is to take the bark immediately after the fit. By this means the paroxysm is

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shortened,

shortened, and the intestines cleansed, previous to the administration of the bark ; the operation of the tinctura sacra not being prevented, but only somewhat retarded by the opiate. When a vomit is given immediately before the paroxysm, the administration of the opiate should be postponed till the hot fit is begun.

Those observations, the Doctor informs us, are the result of an extensive practice ; as during the prevalence of intermitting fevers in the years 1765, 6, and 7, he seldom visited less than thirty or forty patients every day, labouring under every species of this disease.

Of the SLOW NERVOUS FEVER.

IN this fever the patient at first becomes somewhat listless, and feels slight chills and shiverings, with uncertain sudden flushes of heat, and an universal weariness. This is always attended with a heaviness and dejection of spirits, and more or less of a load, pain, or giddiness of the head. A nausea and disrelish of every thing soon follows, without any considerable thirst, but frequently with urging to vomit, though little but insipid phlegm is brought up.

Though

Though a kind of lucid interval of several hours sometimes intervenes, yet the symptoms return with aggravation, especially towards night. The head becomes more heavy, or giddy, the heats greater, the pulse quicker, but weak, with an oppressive breathing. A great *torpor*, or obtuse pain and coldness, affects the hinder part of the head frequently, and oftentimes a heavy pain is felt on the top all along the coronary suture. This, with that of the back part of the head, generally attends nervous fevers, and is commonly succeeded by some degree of a delirium.

In this condition the patient often continues for five or six days, with a heavy pale sunk countenance, seemingly not very sick, and yet far from being well; restless, anxious, and commonly quite void of sleep, though sometimes very drowsy and heavy. But though he appears to those about him actually to sleep, he is utterly insensible of it, and denies that he does.

The pulse, during all this time, is quick, weak, and unequal, sometimes fluttering, and sometimes for a few minutes slow, nay intermitting; and then, with a sudden flush in the face, immediately very quick, and perhaps soon after surprisingly calm and equal; and thus alternately. The heats and chills are no less uncertain and

unequal : sometimes there is a sudden colour and glow in the cheeks, while the top of the nose and ears is cold, and the forehead in a cold dewy sweat. Nay, it is very common, that a high colour and heat appear in the face, when the extremities are quite cold.

The urine is commonly pale, and often limpid, frequently of a whey-colour, in which there is either no sediment, or a kind of loose matter like bran, irregularly scattered up and down in it. The tongue, at the beginning, is seldom or never dry or discoloured, but sometimes covered with a thin whitish mucus. At length, indeed, it often appears very dry, red, and chapped ; but this is mostly at the state, or close of the disease.

About the seventh or eighth day the giddiness, pain, or heaviness of the head, become much greater, with a constant noise, which is very disturbing to the sick, and frequently brings on a delirium. The load on the præcordia, anxiety, and faintness grow much more urgent, and the patient often falls into a *deliquium*, especially on attempting to sit up. Coldish sweats suddenly come on the forehead, and on the backs of the hands (though at the same time there be too much heat in the cheeks and the palms) and as suddenly goes off. If the urine now becomes more pale and limpid, a delirium, with universal tremors,

tremors, and *subfultus tendinum*, may be expected. The former is seldom violent, but as it were a confusion of thought and action; the patient constantly muttering to himself, and faltering in his speech.

Often profuse sweats pour forth suddenly about the ninth, tenth, or twelfth day, commonly coldish or clammy on the extremities; frequently very thin stools are discharged. Each of those evacuations is generally colliquative, and very weakening. A warm moisture of the skin, however, is for the most part salutary, and a gentle diarrhæa frequently carries off the delirium and comatose disposition.

Now nature sinks apace, the extremities grow cold, the nails pale or livid, and the vibrations of the pulse become so exceeding quick, that they can hardly be distinguished; though sometimes they creep on surprisingly slow, and frequently intermit. The sick become quite insensible and stupid, scarcely affected with the loudest noise, or the strongest light, though at the beginning extremely susceptible of both. The delirium ends in a profound coma, and the latter in death.

Such is the progress of this disease, copied chiefly from the accurate description of Dr.

Huxham, who has also delivered valuable observations on the method of cure.

In the slow nervous fever, it is evident that no great evacuations (especially bleeding) are proper, particularly in persons of originally weak constitutions, who are the most subject to it. Dr. Huxham has known a common purge, injudiciously given at the beginning of the fever, immediately followed by surprising languors, syncope, and a large train of other unfavourable symptoms. It may however be sometimes necessary, even at the beginning, to cleanse the *primæ viæ* by a gentle puke, a little rhubarb, manna, &c. but any thing drastic is pernicious. A mild vomit may be given with much less ruffle to nature than a common purge, and is even necessary when nausea, and load and sickness of the stomach are urgent; as frequently happens at the attack of the fever. Clysters of milk, sugar, and salt, may be injected with advantage every second or third day, if the body be costive.

In the cure of this fever, the best remedies are the temperate, cordial, diaphoretic medicines, with a supporting and diluting diet. The latter of itself, judiciously managed, proves of the most beneficial consequence, especially when assisted by well-timed blisters, and a due care to keep the patient as quiet as possible, both in body
and

and mind. Strong opiates, however they may seem to be indicated by want of sleep and great restlessness, are commonly very pernicious ; but mild diaphoretics, such as *pulvis contrayervæ compositus*, with a little castor and saffron, and small quantities of theriac. andromach. or elixir paregoric. have good effects. By raising a gentle easy sweat, or at least a plentiful perspiration, they calm the hurry and tumult of the blood and spirits, whence soft refreshing slumber succeeds. Where the confusion and dejection of spirits are very considerable, Huxham advises to add galbanum, or silphium, with a little camphor. Blisters should be immediately applied to the neck, *occiput*, or behind the ears ; and a free use must be made of thin wine-whey, some pleasant ptisan, infusions of mild aromatic herbs, or gruel, with a little soft wine. Chicken broth also is serviceable, both as food and medicine, especially towards the decline of the disease ; as are likewise thin jellies of hartshorn, sago, and panada, with the addition of a little wine, and the juice of Seville orange, or lemon.

From the great oppression on the præcordia, this disease may sometimes be thought to be nearly allied to the peripneumony ; but the physician must carefully beware of bleeding. Not only the weakness and fluttering of the pulse,
but

but also the pale, watery, limpid urine, which is commonly attendant, contra-indicate this evacuation. These symptoms, as Dr. Huxham observes, denote the load, anxiety, and oppression on the præcordia, to proceed from the nervous orgasm, not from a peripneumonic obstruction, or inflammation. The breathing in this case, though thick and laborious, is not hot, but a kind of a sighing, or sobbing respiration, often unaccompanied with a cough. Here, says Huxham, the nervous cordial medicines are indicated, and blisters to the thighs, legs, and arms.

He prescribes the following bolus and draught to be taken in those circumstances.

℞ Pul. contrayerv. comp. gr. xv. croc. Anglic. gr. iii. confect. Raleigh. ℥i. syr. croc. q. f. m. f. bolus.

℞ Sal, corn. cerv. ℥ss. suc. limon. ℥iii. aq. alexeter. simp. ℥iss. m. Peracta effervescentia, adde spirit. lavendul. comp. syr. croci ana ℥iss. m. f. haustus.

These, or the like, he orders to be taken every fifth, sixth, or eighth hour, and a temperate cordial julep. *Spiritus volatilis aromaticus*, or *fœtidus*, may be given now and then out of thin wine or cyder-whey, or that of mustard; which, without any more pompous apparatus, Dr. Huxham observes, is not a contemptible medicine, especially for the poor.

The

The difficulty of breathing, anxiety, and oppression, often precede a miliary eruption ; which frequently appears on the seventh, ninth, or eleventh day of the fever, and sometimes later. It ought to be promoted by soft, easy cordials, and proper diluents, to which sometimes a little theriac. andromach. or elixir paregoric. may be added.

But whatever advantage arises from a gentle breathing sweat, with which the miliary eruptions freely and easily advance, profuse sweats are seldom or never beneficial, even though accompanied with a large eruption. Dr. Huxham informs us, that he has seen two or three crops of miliary pustules succeed one another, and large sweats, long continued, without any relief to the patients ; but, on the contrary, highly prejudicial, by increasing the weakness.

In such profuse colliquative sweats, our author has frequently given, with good effects, a little generous red wine, diluted somewhat, if necessary. It moderated the sweat, supported the patient, and also kept up the miliary eruption, if such happened to attend. Towards the decline of the fever, when the sweats are great and weakening, he likewise gave small doses of the tincture of the bark, with saffron and snake root, interposing now and then a dose of rhubarb, to carry off the putrid humours in the first passages. The
purga-

purgative makes the remissions, or intermissions, which frequently happen in the decline of nervous fevers, more distinct, and gives a fairer opportunity for the preparations of the bark. About this time he generally gave the latter out of the saline draughts, made with the salt of wormwood and juice of lemons.

Though a gentle diarrhæa is sometimes of manifest service towards the end of this fever, crude, thin, colliquative stools, are very prejudicial, and sink the patient extremely fast. When they are livid, or of a kind of lead colour, whatever be the consistence, they afford a most unfavourable prognostic.

No discharge affords greater hope of recovery than a free salivation, without *aphtæ*; especially where this is attended with a kindly moisture of the skin.

Seldom any thing completely critical is observed in this fever; and in many cases it seems to be extinguished by time alone. The urine is hardly ever concocted, but crude, pale and thin, through the whole course of the disease, and frequently much too profuse. Sometimes, indeed, after the exacerbations, or in the sweats, it is higher coloured, but without sediment, small in quantity, and commonly as it were greasy.

Dr.

Dr. Huxham observes, that though the pores of the skin, and the salival ducts, are found in general to be the most advantageous outlets for the corrupted juices which seem to form the matter of the disease, yet they often partly run off also by the intestines and urinary passages; and that, though these discharges are often very profuse, they are not to be too hastily suppressed, without causing a dangerous translation of the morbid matter on the vital parts. A sudden check of the sweats are most commonly attended with convulsive rigours, vast uneasiness, and oppression on the præcordia, syncope, &c. while nausea, sickness at stomach, colics, and a delirium, are the usual effects of powerful astringents prematurely administered. Even the blisters in this case are not to be readily dried up; the more they discharge, it is generally so much the better. Nor if they ulcerate somewhat, ought it to be reckoned an unfavourable symptom. For, says the author above-mentioned, though it may shew the acrimony of the humour drained off, it affords proof that nature has strength enough to expel it.

When any of the discharges in this fever are very immoderate, they may be prudently restrained, but not repelled. Therefore, says Dr. Huxham, cold air, cold linen, cold liquors, or a cold

cold regimen, are highly improper. Yet, adds he, to be always labouring by very hot cordials, volatile alcalious salts, and very hot air, to raise sweats, and to continue them, is really melting, not mending the patient.

Of the SMALL-POX.

THE small-pox is generally introduced with lassitude, pain of the back, nausea, and vomiting. According to the quantity of eruption, it is distinguished into two kinds; and each of these is divided into four stages.

The first stage continues from the commencement of infection till about the fourth day, and is accompanied with the symptoms above-mentioned. Sometimes also convulsive motions occur at this period, especially in children; and are reckoned no unfavourable symptom. Blood frequently flows from the nose. The belly continues sometimes in its natural state, and at others is either costive or loose. Soon after emission, the urine generally becomes turbid. The fever, in this stage of the disease is various, according to the constitution of the patient.

About

About the third or fourth day of the disease commences the second stage, when all the symptoms above-enumerated, except the fever, usually disappear, and the eruption breaks out, first on the face, next on the breast and arms, and gradually extends over the body till the sixth day. The fever is now considerably diminished, if it does not entirely cease.

The third stage is that of suppuration, which succeeds the complete eruption over the body. It begins about the eighth day, and continues till the eleventh. During this period, the heat and feverishness return; a swelling of the face supervenes, soon followed by a similar state of the hands, and afterwards of the feet. This state is frequently accompanied with a pain in the throat, and an inflammation of the eyes.

The fourth stage of the disease is comprised under the four succeeding days, during which the pustules, having attained maturity, become dry, and desquamation ensues.

The proper method of curing the small-pox was strongly contested by Sydenham and Morton, the former of whom had the honour of introducing the cool regimen, which has proved so advantageous in this disease. Since that time, the temperate treatment has been carried, in various respects, to a yet greater degree; but as the

progreſs of the diſeaſe depends upon the force of the vital powers in expelling the eruption, the regimen muſt be ſuited to the degree of fever, and the conſtitution of the patient.

If the inflammatory ſymptoms run high at the beginning of the ſmall-pox, it will be proper to draw off ſome blood, and even to repeat it, if farther indicated by the ſame appearances. A full, tenſe, throbbing pulſe, great heat, and difficult and hot reſpiration, high colour of the face, redneſs of the eyes, phrenzy, &c. particularly demand it. After having drawn a proper quantity of blood from the arm, bleeding in the foot has generally a good effect, by making a revulſion from the head and breſts, parts which we ſhould endeavour to guard, as much as poſſible, againſt the violence of this diſeaſe. For the ſame purpoſe Dr. Huxham recommends bathing the feet and legs in warm water, or milk and water, for a few minutes, two or three times a day, before and at the eruption; adviſing alſo the application of cataplaſms of milk and bread, boiled turnips, or the like.

If notwithſtanding, the fever continues to run high, the eruption does not regularly advance, the above mentioned writer not only adviſes bathing the legs and feet, but the arms and hands, or even the trunk of the body.

Fre-

Frequently persons who are strong and plethoric fall into a great dejection of spirits, and a general debility, attended with a heavy, oppressed pulse, at the very beginning of the disease. This circumstance, Dr. Huxham observes, makes the less experienced practitioner very diffident as to bleeding, though here equally necessary. Nor does any thing afford more speedy relief, especially when the dejection is caused by an apprehension of danger, which is often the case with adult persons. It is therefore proper to draw some blood in such cases, and that as early as possible, but not in too great a quantity at once.

When immoderate fear and dejection of spirits concur with the disease, it is also often necessary to give something of a cordial nature, even at the very beginning, and sometimes not with a sparing hand.

When the disease attacks with a rawness, soreness, or great heat of the mouth and throat, and a considerable sharp rheum, or stoppage in the nostrils, with frequent sneezing, and a tickling cough, it is advisable to apply blisters, which may otherwise be better omitted in the early state of the disease.

But when persons of weak, lax fibres, and depauperated blood, or those who have lately undergone great evacuations, are seized with the small-

pox, venesection would prove highly prejudicial. Such patients have generally a sunk pale countenance, a weak, quick pulse, very great dejection of spirits, with a pale crude wheyish or limpid urine, alternate chills and heats, little thirst, and no great pain, but a perpetual heaviness and sickness at stomach, giddiness, &c. Here, says Huxham, sack and saffron are not improper, with some easy cordial, nervous medicines, sack-whey, wine and water, or the like. He has seen pretty large quantities of wine given in some low depressed cases, with great advantage. Blisters also may be here applied, and stimulating cataplasms to the feet; but bathing seems not so proper.

Dr. Huxham observes, that there is one thing which particularly promotes the variolous eruption in those low cases, where the pustules do not break forth in a regular manner, at the usual season, but lie buried in the skin with little or no protuberance, and less colour. The expedient to which he alludes is vomiting by a gentle emetic. Nature for the most part makes such an effort spontaneously in this disease, and he thinks we should always follow the indication. For the vomiting not only in part throws off the morbid matter, which primarily affected the stomach, but also the heavy putrid bilious *colluvies*, that may have been collected in it, the liver, gall-bladder, &c.

It

It is objected to this practice, Dr. Huxham observes, that vomiting drives up too much blood to the brain, and therefore is improper in the beginning of the small-pox. He admits this remark to be just, if the vomit be administered previously to bleeding in plethoric constitutions; nay, he has known very terrible accidents ensue, where thus injudiciously managed. Cataplasms to the feet should immediately succeed the vomit.

The emetic has commonly also the good effect of producing a stool or two, by which the intestines are unloaded; but if this does not happen, an emollient laxative clyster should be given immediately. In many cases it is proper to give a gentle purge of manna, cream of tartar, or rhubarb. Even in case of a diarrhœa, a dose or two of the latter should be given.

From the various degrees and nature of the fever, with which the small-pox may be accompanied, Huxham justly observes, that either the hot, or cold regimen, used indiscriminately in all cases, must be extremely improper. Sometimes Sydenham's method, says he, may be advisable, sometimes Morton's. In short, the particular case requires a particular treatment, and the attending physician ought to exert his judgment in adapting it rightly.

In the cure of the small-pox, it is of no little importance that we attend to the preceding and

present constitution of the air. A continued cold dry air, says Huxham, renders the fibres elastic, and the blood dense; whence, in such a constitution patients will, *cæteris paribus*, more need, and better bear blood-letting, than in a warm, moist, relaxing state of the air. In the former also, they will require more of the diluting, antiphlogistic drink, diet, and medicine; but in the latter, something more cordial, sub-astringent, and anti-putrescent will be requisite.

A cold and dry, as well as a hot and dry state of the atmosphere, are unfavourable to salivation, while different constitutions of the air dispose too much to this discharge, which they also render acrimonious. In the last mentioned state of the air, the crystalline, or lymphatic pox are most frequent. These never maturate kindly, but the matter remains crude through the whole disease. Frequently a great part of this thin crude matter is re-absorbed into the blood, and leaves a great number of the pustules flaccid; whence terrible consequences, and even a fatal event, often ensues. When the lymphatic humours, however, go off by a moderate diarrhœa, or a very plentiful discharge of full-coloured urine, which yields a sediment, the sick very often recover. But black, bloody, or sanious stools generally indicate a mortification of the intestines,

restines, especially if the abdomen be swollen, painful, and tense. If ever large sweats are useful in the small pox, it is in this kind of them.

In this crude kind of pox and profuse ptyalism, where the skin and pustules are pale or livid, the pulse weak, the urine thin and watery, Dr. Huxham observes that the warmer medicines are necessary; such as *pulvis contrayervæ compositus*, myrrh, musk, saffron, camphor, theriac. mithridate, &c. These are of great service in raising the pustules, and digesting the matter, and may be washed down with sack-whey, decoct. rubicund. a temperate testaceous julep, or a dish of coffee now and then, with a little thin milk in it.

Here also without doubt opiates are strongly indicated. Theriaca, elixir peregoricum, or tinctura Thebaica should be given with diacodium frequently, but in such doses as to quiet, not stupify the patient. Large doses occasion great relaxation and debility, which nothing but a fresh dose after some time, or a warm cordial, will relieve. It is always prudent to begin with moderate opiates; and some patients bear diacodium, who are hurt by any stronger anodyne. There are however no medicines that so much incrassate thin acrid humours, abate their irritation, and maturate the pustules, so kindly as

opiates properly given. But when the salivation is extremely viscid and difficult, and the respiration short and laborious, we ought to be cautious in using them, and join with them gum ammoniac, oxymel scilliticum, &c.

In the crystalline pox a free use ought also to be made of blisters, which, besides their other good effects, give a copious vent to the acrid morbid humours.

With the elixipharmac medicines we should likewise join proper diuretics, such as nitre, sal succini, spiritus nitri dulcis. For often a plentiful flow of urine is observed to compensate other evacuation. If this happens when the salivation begins to cease, and the face subsides, it is always salutary, and ought to be promoted as much as possible. It is observed that the sick, whilst lying in bed, have frequently neither inclination nor power to discharge their urine; but immediately on being lifted up, they shall void it in a large quantity. On this account, they should often be prompted to discharge it by raising them on their knees.

Dr. Huxham observes, that there is nothing more common than for the thin, acrid variolous matter to run off by the intestines, and frequently in a violent manner. In children this discharge is often critical, and seems to be substituted by
nature

nature for the salivation in adults. It therefore ought never to be suppressed too hastily. Even when profuse, it should not be stopped without premising a dose or two of rhubarb; after which astringents and opiates may be used. When every thing else fails, a clyster with diascordium or theriaca, is likely to prove effectual. In general, however, the looseness should only be moderated, especially at, or after this state, taking care to support the patient during the flux with a proper strengthening, sub-astringent diet.

Dr. Huxham informs us, that he never found either the vegetable or mineral acids of any great service in the crude crystalline pox, but he has often found them useful in the small, black, confluent kind, accompanied with petechiæ, where the putrefaction of the humours is generally much greater.

It is observed, that the great difficulty and danger of this disease chiefly comes on at the *state* or *turn* of the pox, which in the milder kinds of the disease arrives sooner than in others. This critical period happens either on the seventh, ninth, or eleventh day from the eruption, and is often attended with a dreadful aggravation of the disease. The swelling of the face sinks at once, the salivation suddenly ceases, the pustules become flaccid, and their interstices pale. A rigor

supervenes, which is followed by a fever, great difficulty of breathing, faintness, sickness, anxiety, delirium, &c. Huxham remarks that such a change is to be expected, if the pustules break out very numerous the first, second, or third day from the seizure; if after the complete eruption they do not fill well, keep up round and properly pointed, but grow flat, and run abroad, or have a small dimple, or black speck in the middle; if they are not surrounded with a florid base, and they look wan, or darkish coloured; if the urine either has continued, or now becomes pale, crude, and thin, and the carotid and temporal arteries throb much, no small danger is impending.

The observations and rules delivered by the experienced Huxham, respecting this situation of the disease, are highly worthy of attention.

If, says he, the swelling of the hands does not regularly succeed the tumor of the face, and the swelling of the feet that of the hands, it is justly reckoned an ill symptom. For this is a regular and critical translocation of the morbid humours to those parts, and commonly happens when the salivation begins to abate, and the face subsides. Where circumstances are threatening, therefore, he advises the application of epispastics to the wrists and ancles, a little before we expect the tumour of the respective parts should come on,
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for these not only draw the humours thither, but also give them vent. He thinks the use of emollient cataplasms or fomentations, to the parts, should for some time precede the blisters, as they would also tend to solicit the critical tumors. Sometimes nature spontaneously throws the morbid matter on the extremities with such violence, as to excite great inflammation, tumor, and most exquisite pain; which nothing will so effectually relieve as emollient fomentations. But where nature is deficient, it is common to apply cantharides to the cataplasms; and in cases of great danger, even to apply a blister to the soles of the feet.

If the heat, head-ach, sickness, and load at stomach, great restlessness, or stupor, come on about the sixth or eighth day from the eruption, the body being costive, as commonly it is, a plain clyster of milk, sugar, and salt, seldom fails of giving immediate relief; and this expedient is particularly necessary, when the sick make frequent but vain efforts to stool. But indeed an emollient clyster, if the patient be costive, ought to be injected every second, third, or fourth day from the beginning of the disease, till the use of gentle purgatives be begun. This method not only keeps the patient cooler, but renders the use of anodynes much more safe and effectual.

For

For very often, till the body is unloaded, they will exert little or no soporific power, or bring on a comatose disposition.

About the crisis of the small-pox, anodynes are almost always in a great measure necessary, for assuaging the pain from the inflammation of the skin and pustules. At this time they ought to be given early in the evening, before the exacerbation comes on, in larger doses likewise, and if need be, oftener repeated. The dose should always be increased the evening before the crisis is expected, in order to quiet the tumult which generally happens the ensuing night. Diacodium seldom proves sufficient unless in children. Huxham observes, that when the patient was hot and feverish, he found it best to give the opiate with some acid, or out of a saline draught; but when low and languid, with theriaca, or some alexipharmac.

At the approach of the secondary fever, if the pulse beat very quick, hard, and strong, the carotid arteries throb greatly, the heat become intense, the breathing very difficult, and an acute pain of the head, or more or less of a phrenzy come on, blood must be immediately drawn. But, on the contrary, if the pulse flags, the patient faints, the pustules and the interstices grow pale, shrivelled, and sunk, or livid, the extremities cold-

ish or clammy, you hardly can, says Huxham, give too warm medicines, drinks, &c, or apply too many blisters. Under such circumstances, he has seen very large quantities of wine given with surprising success.

About the close of the third stage of the small-pox, the salivation commonly abates much, and the matter very often becomes so thick and glutinous, that it is spit off with the greatest difficulty, and even threatens suffocation, unless perpetually deterged by proper gargles, syringing, &c. Huxham says he knows no gargles better in this case than cyder and honey, or vinegar, water, and honey, or oxymel scilliticum, with a little nitre or crude sal ammoniac. When a stronger stimulant is wanting, mustard may be advantageously boiled in the gargles. Sometimes, however, nothing but a vomit will afford relief. Huxham observes that oxymel scilliticum, frequently given, many times succeeds, by gently puking, and easing both expectoration and respiration. It has besides the farther advantage of promoting urine and stool, which are very often deficient at this period of the disease; but in urgent cases, it should be quickened by a decoction, or infusion of ipecacuanha.

When the incrustation is completely formed, and the salivation abates, we must endeavour to
promote

promote some other evacuation, to compensate the deficiency of the cuticular excretions at this time, drain off the putrid matter that is absorbed into the blood, and diminish the secondary fever. At this period, says Huxham, if we can keep up the salivation, and promote a due flow of well concocted urine, things go on tolerably well; but very often both these discharges greatly decline all on a sudden, and the patient falls into the utmost danger. In this case, every endeavour must be used to renew these evacuations, more blisters should be applied, and an emollient laxative clyster be immediately given. At the same time, expectorating mixtures of oxymel scilliticum, lac. ammoniac, &c. should be frequently used; and the patient's linen, which is now become exceeding foul and offensive, ought to be changed.

Huxham observes, that when the salivation proceeds regularly, the pustules keep up and mature properly, the swelling of the face, hands, and feet supervenes in due season, and the patients sleep quietly, and breathe freely, nature is most effectually doing her own work, and should be properly supported in it, but never disturbed. Here he abstained even from clysters, though the patient had been costive for several days, till after the complete incrustation. Clysters then
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are useful to prepare for the succeeding purges, which doubtless become necessary. At this time nature often spontaneously excites a salutary discharge by the intestines in adults, and almost always in children, to whom a diarrhoea is a substitute for the salivation of elder persons.

Of I N O C U L A T I O N.

NO improvement in physic has benefited mankind so much as that of inoculation, which has divested one of the most formidable diseases of almost all its danger, and prevented those consequences that were formerly so injurious to the human race. The most celebrated writer on this subject is Baron Dimsdale, whose judicious and accurate observations I proceed to adopt.

In respect to the most suitable age for inoculation, Baron Dimsdale informs us, that were it left to his choice, he would decline inoculating children under two years old; because within that period they are exposed to all the hazards of dentition, fevers, fluxes, convulsions, and other accidents, sufficiently difficult in themselves to manage, in such tender subjects.

Besides, convulsive paroxysms often accompany the variolous eruptive fever in children ; and though generally looked upon in no unfavourable light, as often preceding a distinct kind of small-pox, yet they are at all times attended with some degree of danger : nay, many have expired under them ; while others, who have struggled through with great difficulty, have been so debilitated, and their faculties so impaired, that the effects have continued during the remaining part of their lives.

It ought also to be considered, that young children have usually a larger share of pustules from inoculation, than those who are advanced a little farther in life ; under which circumstance many have died ; that it seems most prudent to wait till this dangerous period be over, especially as its duration is so short, that the danger of their receiving the small-pox in the natural way, before this time expires, is very little ; and it is easier to preserve them from it, than when they are left more to themselves, and may be more exposed to infection. But children above this period may be inoculated with greater freedom ; nor does there appear any reason to exclude healthy adults of any age ; persons of seventy having passed through this process with the utmost ease and safety.

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In regard to constitution, Baron Dimisdale observes, that greater liberties may be taken than were formerly judged admissible. Persons afflicted with various chronic complaints, of scorbutous, scorbutic, and arthritic habits; persons of unwieldly corpulency, and of intemperate, irregular lives, have all passed through this disease with as much facility as the most temperate, healthy, and regular. But those who labour under any acute or critical disease, or their effects, are obviously unfit and improper subjects. So likewise are those in whom are evident marks of corrosive acrimonious humours, or who have an evident debility of the whole frame from inanition, or any other cause. All such require to be treated in a particular manner previous to the introduction of this disease. Constitutions disposed to frequent returns of intermittents, seem likewise justly exceptionable; especially as the preparatory regimen may in some habits increase this tendency. Baron Dimisdale, however, has known instances of severe ague-fits attacking persons between the insertion of the matter and the eruption of the pox, and even during maturation, when the Peruvian bark has been given liberally and with much success; the principal business, in the mean time, suffering no injury or interruption.

Among

Among the circumstances generally considered as more or less propitious to inoculation, the season of the year has been reckoned a matter of some importance. Spring and autumn have been generally recommended, as being the most temperate seasons; the cold of winter, and the summer heats, having been judged unfavourable for this purpose. But the Baron remarks, that experience does not justify those opinions; for according to the best observation he has been able to make, inoculated persons have generally had more pustules in spring than at any other time of the year; and epidemic diseases being commonly most frequent in autumn, especially fluxes, intermittents, and ulcerated sore throats (all which are liable to mix more or less with the small-pox) the autumn, upon this account, does not seem to be the most favourable season in general.

Baron Dimisdale's opinion is, that considering the surprising and indisputable benefits arising at all times to patients in the small-pox, from the free admission of fresh cool air and evacuations, we may safely inoculate at all seasons, provided care be taken to screen the patients as much as possible from heat in summer, and to prevent them from keeping themselves too warm, and too much shut up, as they are naturally disposed to do, from the weather in winter. When seasons,
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however, are marked with any peculiar epidemics, of such a kind especially as may render a mild disease more untractable, it may perhaps be most prudent not to inoculate while such diseases are prevalent.

Of the PREPARATION.

IN directing the preparatory regimen, Baron Dimsdale principally aims at the following points, viz. to reduce the patient, if in high health, to a lower and more secure state; to strengthen the constitution, if too low; to correct what appears vitiated, and to clear the stomach and bowels, as much as may be, from all crudities and their effects. With this view he orders such of his patients as constitute the first class abovementioned, and who are by much the majority, to live in the following manner: to abstain from all animal food, including broths, also butter and cheese, and from all fermented liquors, excepting small beer, which is allowed sparingly; and from all spices, and whatever is endued with a manifest heating quality. The diet is to consist of pudding, gruel, sago, milk, rice-milk, fruit-pies, greens, roots, and vegetables of any of the kinds in season, prepared or raw. Eggs, though not to be eaten

alone, are allowed in puddings, and butter in pye-crust. The patients are to be careful that they do not eat such a quantity as to overload their stomachs, even of this kind of food. Tea, coffee, or chocolate are permitted for breakfast, to those who choose, or are accustomed to them.

In this manner they are to proceed about nine or ten days before the operation; during which period, at nearly equal distances, they are directed to take three doses of the following powder, either made into pills, or mixed with a little syrup or jelly, at bed-time, and a dose of Glauber's salt, dissolved in thin water-gruel, each succeeding morning.

The powder is composed of eight grains of calomel, the same quantity of the compound powder of crabs-claws, and one eighth part of a grain of emetic tartar. Instead of the latter, Baron Dimisdale has sometimes substituted two grains of precipitated sulphur of antimony. In order to facilitate the division of the doses, a large quantity is prepared at once, and great care taken that the several ingredients be well mixed.

This quantity is usually sufficient for a healthy strong man; and the dose must be lessened for women or children, according to their age and strength,

strength, as well as for persons advanced in years.

The first dose is generally ordered at the commencement of the course ; the second, three or four days after ; and the third, about the eighth or ninth day. The Baron chooses to inoculate the day after the last dose has been taken. On the days of purging, broths are allowed, and the patients are desired to abstain from unprepared vegetables.

What has been said above concerning the preparation, must be considered as proper only for the young or middle aged, in a good state of health ; but among those who are desirous of inoculation are often found tender, delicate, and weakly women, men of bad stamina, valetudinarians by constitution, by illness, or intemperance ; also aged persons and children ; and for all such a very different treatment must be directed. Here a milder course of medicine, rather of the alterative than purgative kind, is preferable ; and in many instances, an indulgence in some light animal food, with a glass or two of wine in case of lowness, is not only allowable, but necessary to support a proper degree of strength, especially in advanced age.

Children whose bowels are often tender, and ought not to be ruffled by strong purges, yet re-

quire a mild mercurial, and bear it well. Besides emptying the bowels of crudities, it is a good security against worms and their effects, which sometimes produce very alarming, and even fatal disorders.

An attention to the particular state of health of those who are entering upon the preparatory course, has been productive of great mischief. This is chiefly observable respecting the indiscreet use of mercurials, by which a salivation has often been raised, to the risque of impairing good constitutions, and the ruin of such as were previously weak and infirm. The distinctions and treatment necessary, will be obvious to those who are acquainted with the animal œconomy and medical practice.

The time of menstruation has generally been the guide in respect to the inoculation of women, that the whole of the disease might be over within the menstrual period. Baron Dimsdale informs us that he observes this rule, when he can choose his time without any inconvenience, and he inoculates soon after the evacuation ceases; though he has no reason to decline performing the operation at any time.

Women with child have likewise been inoculated, and done well; but the state of pregnancy seems unfavourable to the process, which ought
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therefore not to be hazarded without some urgent reason. Baron Dimfdale has not inoculated any woman whom he knew to be pregnant ; but on some who concealed their pregnancy he has performed the operation, without producing a miscarriage, the hope of which event, he suspects, had rendered them desirous of the process. One of those had a child born nine weeks after inoculation, at the full time, with distinct marks of the disease, though the mother had very few eruptions.

Of I N F E C T I O N.

THE manner most usually practised in this country for communicating the small pox by inoculation, has of late been the following : A thread is drawn through a ripe pustule, and well moistened with the matter. A piece of this thread is insinuated into a superficial incision made in one or both arms, near the part where issues are usually fixed ; and being covered with a plaster, is there left for a day or two.

Very different methods of inoculation, however, are pursued ; two of which Baron Dimfdale has frequently practised, and describes ; but he informs us that the following has proved so invariably successful, as to induce him to give it the preference.

The patient to be infected being in the same house, and, if no objection is made to it, in the same room, with one who has the disease, a little of the variolous matter is taken from the place of insertion, if the subject be under inoculation ; or a pustule, if in the natural way, on the point of a lancet, so that both sides of the point are moistened.

With this lancet an incision is made in that part of the arm where issues are usually placed, deep enough to pass through the scarf skin, and just to touch the skin itself, and in length as short as possible, not more than one eighth of an inch.

The little wound being then stretched open between the finger and thumb of the operator, the incision is moistened with the matter, by gently touching it with the flat side of the infected lancet. This operation is generally performed in both arms, and sometimes in two places in one arm, a little distant from each other. For as Baron Dimisdale has not observed any inconvenience from two or three incisions, he seldom trusts to one ; that neither he nor his patient may be under any doubt about the success of the operation from its being performed in one place only.

Baron Dimisdale has also tried the following method, with the same success as that above de-

scribed ; but he does not so much approve of it, because he has been credibly informed that it has sometimes failed in the practice of others. A lancet being moistened with the variolous fluid in the same manner as in the other, is gently introduced, in an oblique manner, between the scarf and true skin, and the finger of the operator is applied on the point, in order to wipe off the the infection from the lancet, when it is withdrawn. In this method, as well as in the former, a little blood will sometimes appear ; but Baron Dimisdale neither draws blood with design, nor does he think there is any necessity of wiping it off before the matter is introduced.

In both these ways of inoculating, neither plaster, bandage, nor covering is applied, nor in any respect necessary.

Baron Dimisdale informs us, that those methods of producing this disease have never once failed him ; and experience has sufficiently proved that there is no danger from additional infection by the natural disease at the same time. He therefore makes no scruple of having the person to be inoculated, and the person from whom the infection is to be taken, in the same room ; nor has he ever observed any ill consequence attending this practice. But he advises the inoculated patients (though perhaps there is no

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necessity

necessity for that precaution) to be afterwards separated from places of infection till certain signs of success appear, when all restraint is removed, there being then no danger from accumulation.

Baron Dimisdale remarks, that it seems to be of no consequence whether the infecting matter be taken from the natural or inoculated small-pox. He has used both, and never has been able to discover the least difference, either respecting the certainty of infection, the progress, or the event. He therefore takes the infection from either, as opportunity offers, or at the option of the patients or their friends.

Neither is it of any consequence whether the matter be taken before, or at the crisis of, the distemper. It is generally supposed, that the small-pox is not infectious till after the matter has acquired a certain degree of maturity; and in the common method of inoculation this is so much attended to, that when the operation has proved ineffectual, the failure has been commonly ascribed to the unripeness of the matter.

But, as the author remarks, it appears very clearly from the present practice of inoculation, that so soon as any moisture can be taken from the infected part of an inoculated patient, previous to the appearance of any pustules, and even previous to the eruptive fever, this moisture is
capable

capable of communicating the small-pox with the utmost certainty. Baron Dimsdale has taken a little clear fluid from the elevated pellicle on the incised part, even so early as the fourth day after the operation; and has at other times used matter fully digested at the crisis, with equal success. In general, however, he prefers taking the matter for infection during the eruptive fever, as he supposes it at that time to have its utmost activity.

In all cases, when he takes matter from an inoculated person, it is from the place where it was inserted; as he is always sure to find infection there if the disease succeeds, and always of sufficient energy.

It may appear strange that no bandage, dressing, or application whatsoever, is used to the part infected; but that the most simple incision being made, and moistened with the smallest particle of the recent fluid matter, the whole is committed to nature. This method, however, the baron observes, is perfectly right; because the application of either plaster or unguent, as is the usual practice, will occasion an inflammation on some skins, and in all tend to disfigure the natural appearance of the incision, and prevent our forming a proper judgment of the progress of the infection.

If neither an inoculated patient be at hand, nor any one in the neighbourhood has a distinct
kind

kind of the natural disease, a thread may be used, as in the common manner, provided it be very recently infected; but baron Dimsdale is of opinion, that the thread ought to be used as soon as possible after being charged with infecting matter.

The following method of introducing the disease has likewise been found effectual: Dip the point of a lancet in variolous matter; let it be held in the air till it is dry, after which it may be put up and kept in the common case, without any farther care. With this prepared lancet raise the scarf skin obliquely, and keep the lancet a little time in motion between the two skins, that part of the matter may be mixed with the animal juices; then withdraw the lancet, and leave the incision uncovered as before.

Of the PROGRESS of INFECTION.

A DUE attention to the progress of infection, discoverable by the part where the operation was performed, is a necessary circumstance; because a just prognostic may thence be sometimes formed of the future state of the distemper, and indications may be taken from the different appearances on the arm, that will enable us to prevent inconveniencies.

Our author observes, that the former method of covering the place of incision with a plaster, and continuing upon it dressings of one sort or other, prevented much useful information of this kind. They precluded any judgment by the touch, and sometimes rendered that by the eye equivocal.

The day after the operation is performed, though it takes effect, little alteration is discoverable. On the second day, if the part be viewed with a lens, there generally appears a kind of orange-coloured stain about the incision, and the surrounding skin seems to contract. At this time baron Dimdale usually gives the following medicine at going to bed, either mixed with a little of any kind of jelly, or more frequently made into a pill.

Calomel, and compound powder of crabs claws, of each three grains, emetic tartar, one-tenth of a grain.

A quantity of this medicine should be carefully prepared at once, in order to make the division more exact.

On the fourth or fifth day, upon applying the finger, a hardness is perceptible to the touch. The patient feels an itching on the part, which appears slightly inflamed; and under a kind of vesication is seen a little clear fluid; the part resembling

sembling a superficial burn. About the sixth, most commonly, some pain and stiffness is felt in the axilla; a circumstance which not only foretells the near approach of the eruptive symptoms, but is a sign of a favourable progress of the disease. Sometimes on the seventh, oftener on the eighth day, symptoms of the eruptive fever appear; such as slight remitting pains in the head and back, succeeded by transient shiverings, and alternate heats, which continue in a greater or less degree till the eruption is perfected. At this time also it is usual for the patient to complain of a very disagreeable taste in his mouth, the breath is always fetid, and there ensues a smell peculiar to the variolous eruptive fever.

The inflammation in the arms at this time spreads fast; and upon viewing it with a good glass, the incision, for the most part, appears surrounded with an infinite number of small confluent pustules, which increase in size and extent as the disease advances. On the tenth or eleventh day, a circular or oval efflorescence is usually discovered, surrounding the incision, and extending sometimes near half round the arm, but more frequently to about the size of a shilling; and being under the cuticle, is smooth to the touch, and not painful. This appearance also is favourable. It accompanies eruption; eve-

ry disagreeable symptom ceases; and at the same time it certainly indicates the whole affair to be over; the pain and stiffness in the axilla also going off.

The feverish symptoms are for the most part so mild, as seldom to require any assistance, except a repetition of the same medicine that was directed on the second night after the operation; and next morning the following laxative draught should be given, to procure three or four stools.

Infusion of senna two ounces, manna half an ounce, tincture of jalap two drachms.

These are given as soon as the eruptive symptoms are perceivable, if they seem to indicate any uncommon degree of vehemence.

It has been observed, that by attending to the progress of infection, we may, in general, be able to prognosticate, with some degree of certainty, the issue of the distemper. Particular incidents will ever happen, but not sufficient to invalidate the propriety of general rules.

If the appearances already described are observed early, a very favourable event may be expected; but it happens in some cases, that the success of the inoculation is barely perceptible, the colour about the wound remaining pale, instead of changing to red, or inflamed; the edges of the incision

cision spread but little, they remain almost entirely flat, and are attended neither with itching nor uneasiness of any kind. Nay, sometimes on the fifth, and even the sixth day, the alteration is so little, as to render it doubtful whether the infection has taken place.

When matters are in this state, the appearance is unfavourable, implying a late and more untoward disease: to prevent which, Baron Dimfsdale directs the powder or pill to be taken every night; and in case it fails to operate by stool, or there be the least disposition to costiveness, an ounce of Glauber's salts, or more commonly the laxative draught already mentioned, is given in the morning, once or twice, as the case may require. This course forwards the inflammation, which is always a desirable circumstance, it being constantly observed that an early progress on the arm, and an early commencement of the eruptive complaints, portend that the distemper will be mild and favourable; and on the contrary, when both are late, the symptoms are usually more irregular and unfavourable.

The management recommended by Baron Dimfsdale at the period of eruption, differing essentially from that of former practitioners, and being a matter of great importance, he gives the following explicit directions on this head, advising

vising that they may be pursued with firmness and moderation.

Instead of the patient being confined to his bed, or his room, when the symptoms of the eruptive fever come on, he is directed, as soon as the purging medicine has operated, to keep abroad, as much as he can bear, in the open air, be it ever so cold, always taking care not to stand still but to walk about moderately while abroad. He is also directed, if thirsty, to drink cold water.

Baron Dimsdale observes, that this treatment seems as hard at first to the patients, as it must appear singular to those who are unacquainted with such practice ; but the effects are so salutary, so constantly confirmed by experience, and an easy progress through every stage of the disease depends so much upon it, that he admits of no exception, unless the weather be extremely severe, and the constitution very delicate. He adds, it is indisputably true, that in the few instances where the symptoms of eruption have run very high, the patients being averse to any motion, and fearing the cold as the greatest evil, yet, when under those circumstances, he has persuaded them to rise out of bed, and go out of doors, though led sometimes by two assistants, and has allowed them to drink as much cold water as they chose, they

they have not suffered the least unfavourable accident. On the contrary, after they have been prevailed upon to comply with those directions, they find their spirits revived ; an inclination for nourishment returns ; they rest well ; a gentle sweat succeeds, accompanied with a favourable eruption ; and the fever seems to be entirely extinguished.

In general, the complaints in this state are very moderate, and attended with so little illness, that the patient eats and sleeps well the whole time. A few pustules appear, sometimes equally disposed ; sometimes the inflammations on the arms spread, and are surrounded with a few pustules, which gradually advance to maturity ; during which time, for the most part, the eruption proceeds kindly, and there is much more difficulty to restrain the patients within due bounds, and prevent their mixing with the public, thereby spreading the infection, than there was at first to prevail upon them to go abroad. During this time medicine is seldom wanted ; the cool air seems the best cordial ; and if any uncommon languor happens, a basin of small broth, or a glass of wine, is allowed in the day, or some white wine whey at bed-time ; which are indeed at any time allowed to tender, aged, or weakly persons.

With

With those exceptions, the patients are hitherto kept very scrupulously to the diet at first directed. But after the eruption is completed, they are, if occasion requires, indulged in a little well boiled meat of the lightest kind, as chicken, veal, or mutton.

The abovementioned regimen, the cooling alterative purges, and the free use of cool air at the season of eruption, almost universally prevent either alarming symptoms, or a large crop of pustules. Baron Dimisdale has seen a few with such a quantity of pustules, though distinct, that he has neither advised nor allowed them to go out of the house. But the generality of his patients, when the eruptions are few, amuse themselves abroad within proper limits, with the pustules upon them.

This practice, however, the Baron neither enjoins, nor maintains to be necessary; but he has not been able to observe that any inconvenience has arisen from it. He also informs us, that, how strange soever it may appear, those who are most adventurous, seem to enjoy better spirits, and are more free from complaints, than others who are inclined to keep within doors.

Those who have the disease in the slightest manner first described, viz. without any appearance of eruption but on the inoculated part, are

soon permitted to go about their usual affairs ; and many instances have happened of very industrious poor men, who have immediately returned to their daily labour, with a caution not to intermix with those who have not had the distemper, for fear of spreading it, and with injunctions to take two or three times of the purge already directed, or as many doses of Glauber's salts. Those who have the disease in a greater degree, are confined somewhat longer ; and, if there be the least disposition to costiveness, a very mild laxative is now and then exhibited ; as the progress to maturation appears rather to be advanced than retarded by such means.

When the maturation is completed, and there is nothing farther to fear from the distemper, Baron Dimsdale allows his patients gradually to change their course of diet, from the perfectly cooling kind, to one a little more generous ; recommending strictly to all a return to their ordinary animal diet, with much caution and restraint upon their appetites, both in respect of food and fermented liquors.

He observes it is not often that we are under a necessity of making any application to the part where the insertion of the variolous matter was made. It most commonly heals up, and is covered with a scab, about the time when, in a natural

natural way, all the pox would have been dried up. But in some cases the incisions continue to discharge a purulent matter a longer time. In these instances it is sufficient to cover the part with the white cerate, or any other mild emplaſtic ſubſtance, which may at once prevent the linen from adhering to the ſore, and defend it from the air. As in theſe caſes the part remains unhealed from ſome peculiar cauſe in the habit, it will be neceſſary to give gentle purgatives, and proper alteratives, as particular exigencies may require.

OF ANOMALOUS SYMPTOMS and APPEARANCES.

AFTER deſcribing the uſual progreſs of the ſmall-pox from inoculation, Baron Dimſdale remarks that there are frequent deviations from this courſe, which may embarraſs an unexperienced practitioner, and create a real difficulty, as well as apprehenſions of danger. He therefore proceeds to relate the means for removing thoſe ſymptoms, and the doubts reſpecting the event.

The ſymptom he firſt notices, and which, though it very rarely happens, ſometimes gives much trouble, is great ſickneſs, accompanied with vomiting, in the eruptive ſtate of the diſeaſe. For this complaint it is always neceſſary in the

first place to clear the stomach: which may be effected, either by ordering the patient to drink plentifully of warm liquids to promote vomiting; or, perhaps more properly, by giving to an adult one grain of emetic tartar, mixed with ten grains of compound powder of crabs claws; taking care to diminish the dose for very young and weak subjects.

This usually throws off some bilious matter by vomit, sometimes procures stools, or occasions a moderate sweat, and generally administers relief. If, however, no stools should follow from this medicine, and the sickness should remain, a gentle laxative almost certainly procures a respite, and the appearance of the eruption entirely removes the complaint.

Another deviation, of yet greater consequence, which sometimes happens towards the time of the eruption, and is often, though not always, accompanied with great sickness, is an erysipelatous efflorescence. If this shews itself on the skin partially, and here and there in patches, it is not very alarming, and soon wears off. But sometimes the whole surface of the body is covered with a rash intimately mixed with the variolous eruption, and so much resembling the most malignant kind of confluent small-pox, as scarcely to be distinguished from it. In some such cases,

accompanied with petechiæ and livid spots, Baron Dimisdale has been much alarmed, not being able by inspection only, though assisted by glasses, to determine whether what he saw was an inoffensive rash, or tokens of the greatest malignity. Very strict attention, however, has enabled him to distinguish the difference clearly; and for assisting others in such a discrimination, he makes the following remarks.

The real and essential difference is to be gathered from the concomitant symptoms. In the erysipelatous or variolous rash, there is not so much fever, nor is the restlessness or pain of the head or loins, so considerable; neither is there that general prostration of strength, all which are usual attendants on a confluent small-pox, especially when accompanied with such putrid appearances. Besides, upon a careful examination, there may sometimes be discerned a few distinct pustules, larger than the rest, mixed with the rash, which are the real small-pox. In those cases the patients are ordered to refrain from cold water, or any thing cold, and to keep within doors, but not in bed. If any sickness yet remains, a little white wine whey, or other temperate cordial, is advised; and this method has been so generally successful, as to prevent any alarming complaint. After two or three days, the skin

changes from a florid to a dusky colour, a few distinct pustules remain, and advance properly to maturation, without any farther trouble ensuing from this formidable appearance.

This rash has often been mistaken for the confluence it so much resembles, and has afforded occasion for some practitioners, either ignorantly or disingenuously, to pretend that after a very copious eruption of the confluent pox, they can by a specific medicine discharge the greater part of the pustules, leaving only as many distinct ones as may satisfy the patient that he has the disease.

Baron Dimisdale informs us, that rashes of the kind above described frequently happen during the preparation (whether owing to the regimen, or medicine, or both, he does not determine) and cause the operation to be postponed. But he has observed, that in such cases they are apt to return at the time of the eruption of the small pox.

In general, as has been already said, the symptoms which precede eruption commence at the end of the seventh or on the eighth day inclusive from the operation; but it often happens that they appear much sooner, and sometimes much later than this period. Baron Dimisdale has seen some cases in which the disease has come on so suddenly after infection, and with so little complaint

complaint or uneasiness, that the whole affair has been terminated, purges taken, and the patient returned home perfectly well in a week; before others, inoculated at the same time, from the same patient, and under the same circumstances, have begun to complain.

In this case the inoculated part shews early certain marks of infection, sometimes on the very next day, or the day after, when the incision will often appear considerably inflamed and elevated. The patient about this time frequently makes some of the following complaints, viz. chillness, itchings, and slight pricking pains in the part, and sometimes on the shoulder; giddiness, drowziness, and a slight head-ach, sometimes attended with a feverish heat, but often without any. The account themselves give of their feelings is, in some, as if they had drank too much, and in others, as if they had caught a cold. Those complaints seldom last twenty-four hours, often not so long, and with frequent intermissions, never, so far as our author remembers, rising to a degree that requires confinement. During the continuance of those complaints, the inflammation of the arm advances apace, and feels hard to the touch, but upon their wearing off, the inflamed appearances gradually diminish, and the part dries to a common small scab; the skin,

that was before red, turns livid, and the disease entirely vanishes. In some instances those symptoms attack much later; even on the seventh or eighth day, when an eruption might be expected in consequence of them, yet none appears; but the arm gets well very soon, and the disease is at an end.

In this irregular sort of the disorder there have, however, been some examples where a few eruptions have appeared, and probably in consequence of the inoculation; yet the pustules have not looked like the true pox, neither have they matured like them, nor lasted longer than three days; about which time, for the most part, they have dried away.

When this irregular kind of the disease first occurred in Baron Dimisdale's practice, he was in doubt whether the patients were quite secure from any future attacks of the distemper. In order to be satisfied of this point, he inoculated them a second time, causing them to associate with persons in every stage of the disease, and to try all other means of catching the infection. This method has been practised with the generality of such patients ever since, yet without a single instance of its producing any disorder. Baron Dimisdale, therefore, now makes no scruple of pronouncing them perfectly safe; and experience
has

has enabled him to foretel, for the most part, in two or three days after the operation, whether the disease will pass in this slight manner.

Upon the second inoculation, however, the incised parts are uncommonly inflamed for a day or two, just in the same manner as has in numerous instances been observed, as well in those who, though certain of having had the small-pox in the natural way, have submitted to inoculation for the sake of experiment, as in others, who, being doubtful whether they have had the disease or not, have been inoculated in order to be satisfied. But in all such cases, the parts soon became well; nor did any of those appearances which have been described as the constant attendants on inoculation, as pain in the head, giddiness, marks of infection in the arm, &c. ensue. Neither can those appearances ever be produced upon a person who has had the small-pox before, either in the natural way, or by inoculation.

Another irregularity deserving notice is, that sometimes upon the abatement of the fever and other symptoms, after the appearance of several pustules, and when the eruptive stage of the disease seems completed, it nevertheless happens that fresh eruptions come out, and continue doing so daily, for four, five, or even six days successively;

sively; preceded sometimes by a slight pain in the head, though more frequently they appear without any new disturbance. Those are generally few, of short duration, and seldom come to maturity. Baron Dimisdale, however, has seen four cases, in which, after a cessation of complaints, and an appearance of few pustules, the eruptive stage of the disease was thought to be over, yet in two or three days a fresh fit of fever has attacked the patients, and after a short illness a quantity of new pustules has broke out, far exceeding the first number, and those remained, and matured completely.

Some of the Baron's own patients, and, as he has been credibly informed, of other inoculators, have had considerable eruptions of this kind after they returned home; which have probably given occasion for the reports of several having had the disease again in the natural way after inoculation. But in confirmation that those reports are ill grounded, our author observes, that in all the cases of this sort which have occurred in his own practice, or, as far as he can learn, in that of others, the second, or latter crop of pustules, has always happened within the time usually allowed for the progress of the small-pox from inoculation; before the inflammation on the arm has ceased, and sooner than we can suppose them to have

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been

been produced by infection received in the natural way. When this has happened, it has been to persons in whom, after a slight eruption, and abatement of symptoms, the disease has prematurely been judged to be quite over, and they have therefore been permitted to return to their families,

CONSEQUENCES of this Method of INOCULATION.

BARON Dimisdale next considers the consequences that arise from this very cool and repelling method, and how far the patient's future state of health may be affected by a practice so opposite to established theory.

It has been the general opinion, that in most, or all eruptive complaints, especially the small-pox, the rational method of cure was to forward, by every gentle means, the efforts of nature in producing an eruption; and, on the contrary, that there was danger in checking it, either by cold air, cold drink, or any considerable evacuations. For this purpose, the use of warm diluents, and the lying in bed, especially if the fever and symptoms run high, or at least confining to the house, have been generally approved and recommended. Experience, however, has now
sufficient-

sufficiently confirmed the advantage of a different kind of treatment.

While the common or old methods prevailed of conducting inoculation, the patients, particularly children, after passing through the disease in a very favourable manner, were frequently liable to abscesses in the axilla and other parts, tedious ophthalmies, and troublesome ulcerations in the place of insertion; which, though they could not be foreseen nor prevented, yet often gave more pain and vexation to the patients, and trouble to the operator, than the disease itself had done. But on enquiry into the state of those who have been treated in the cool way, or according to the new method, Baron Dimisdale affirms, that in more than fifteen hundred, there has been only one who has had so much as a boil in the axilla; and this was a child who had in the same arm an issue, which was at that time dried up. He has seen only two very small superficial boils in others near the place of insertion; and those seemed to be occasioned rather by an irritation from the discharge, than by any other cause, and were all soon healed with very little trouble.

In a few instances also there has been a slough in the incised part, which has caused a sore of short duration; but not one instance of an ulcer of any continuance. Such little breakings out
too,

too, and scabs, as frequently succeed the mild natural small pox, sometimes, though rarely, happen to those inoculated in the new way; and as they are of little consequence, are generally cured by the same method of a few gentle purges.

In regard to ophthalmies from this kind of practice, Baron Dimisdale has never known an instance of one truly deserving that name. The coats of the eye have been a little inflamed in a very few, but they soon became clear, without any means used for that purpose. He knows but two cases where he thought the inflammation great enough to require bleeding; and not one where a blister was necessary. Those complaints, therefore, which were formerly so frequent and troublesome, seem to be much reduced by the new method, the great utility of which is now universally acknowledged.

The EFFECTS of the NEW METHOD of TREATMENT, applied to the NATURAL SMALL-POX.

BARON Dimisdale informs us, that the very great relief which persons under inoculation experience from fresh air, cold water, and evacuations by stool, during the fever preceding eruption, soon determined him to make trial how far the like treatment might be
useful

useful to those who were seized with the small-pox in the natural way ; especially in such cases, where, from the violence of the symptoms, a confluent kind was justly to be apprehended.

In several instances where Baron Dimsdale has been concerned, and where the symptoms and other concurring circumstances induced him to think that the small-pox was at hand, he directed the same management which he recommends to inoculated patients.

He has been called also to others at the time of eruption, when some pustules having already appeared, put the disease beyond all doubt. In every case of this kind, he has endeavoured to get the sick person into the open air, has generally given the mercurial and antimonial pill ; directing a laxative to be taken some hours after, in order to procure three or four stools. This method he has more particularly enjoined, and sometimes repeated, where the pox has appeared to be of a bad kind, and where little or no relief has been found from the partial eruption ; the symptoms continuing to be such as portended great danger. He has followed the same method during the whole of the eruptive fever, intending thereby to abate its violence, to check the eruption, and prevent the conflux, and consequently the danger.

Baron

Baron Dimisdale informs us that the success attending this practice has hitherto exceeded his expectations; though he acknowledges, at the same time, that as the symptoms run much higher in the natural, than in the inoculated disease, the relief has not been so considerable; and he has found it extremely difficult to persuade such whose complaints have been very severe to quit their beds, and attempt to go abroad. Indeed their state is sometimes so exceeding feeble, that great resolution is requisite to put this in practice.

The immediate sensible effects of going into the open air, are a very great abatement of heat over the whole surface of the body; which, though just before intensely hot, generally in a short time feels not much warmer than that of a person in health. The pulse, from being very strong, full, and quick, becomes less hard and full, but continues quick; and Baron Dimisdale has sometimes observed it to intermit; which, however alarming it may seem, is not a dangerous symptom.

The pain in the head is always relieved, but that in the back and loins does not abate in proportion; and although it costs no little pain and trouble to persist in moving abroad under such circumstances, attended for the most part with
great

great lassitude, yet the patients are sensible of the benefit they receive, and in general think themselves stronger.

Upon going within doors to rest themselves, the pain in the head grows worse, but is again relieved as soon as they return into the air.

The effects of the medicines are usually these :

If there has been much sickness at stomach, a vomiting frequently happens soon after the pill. This should be promoted by drinking plentifully of warm diluents ; and till the fatigue occasioned by it is over, they certainly ought not to go abroad.

By this operation, and the stools which succeed, the feverish heat, thirst, sickness, and pains, are for the most part considerably abated. The patients commonly complain of being very low and faint after those evacuations ; but the most urgent symptoms being thereby alleviated, a disposition to receive nourishment hourly encreases. They are then allowed to drink thin mutton or chicken broth, milk-pottage, or tea. Sleep likewise now, for the most part, supervenes spontaneously. But the patients are only permitted to enjoy this refreshment by day upon the bed ; for Baron Dimsdale always dissuades them from going into it till night.

Besides

Besides that the fever preceding the eruption, and the most grievous symptoms accompanying it, are greatly mitigated by this practice, the eruption is most certainly retarded ; nor does it come out so precipitately after it has begun to appear, as it seemed likely to have done if the natural progress had not been interrupted ; an effect, Baron Dimisdale observes, which however dangerous it may have been thought, may be produced with the utmost safety, and clearly shews the utility of the practice.

Baron Dimisdale is of opinion, that the eruption is not only retarded and protracted by this method, but likewise that it is in some degree repressed ; having had strong reasons to conclude, in several instances, that the number of pustules which appeared at first, was by such repression actually diminished ; and those that remained seemed larger, and of a milder kind.

Baron Dimisdale observes that the state succeeding the eruption is also a period of great importance, though not always attended to so much as it deserves. For when the eruption is completed, the symptoms abate, the patients seem relieved, and often to such a degree, that both they and their attendants flatter themselves with hopes of a happy event, and think it unnecessary to apply for any medical assistance ; yet with all

those hopeful appearances, the number and kind of the small-pox are frequently such, as would make a judicious practitioner apprehensive of much danger in the subsequent stages.

Our author farther observes, that where practitioners themselves may see reason to doubt of the event, yet few or none, he believes, have attempted to do much towards preventing the danger. For, unless some pressing symptoms call for immediate relief, it is the general practice to wait till the maturation comes on, and brings with it such a train of dreadful complaints, as are more than enough to employ, and too often baffle the best abilities.

In this neglected interval, from the eruption being completed, to the accession of the fever of maturation, and its concomitants (an interval which, in point of duration, is different in different constitutions and kinds of small-pox) Baron Dimsdale recommends, in general, the same mercurial antimonial medicine as was prescribed in the eruptive fever, to be repeated at proper intervals, till the maturation advances; at which time it must certainly be discontinued. The circumstances can be regulated only by those who attend, according to the urgency of the symptoms, and the strength of the patients. A cup-full of the following apozem should, if necessary,

sary,

sary, be now and then taken after the mercurial medicine, often enough to procure three or four stools a day, especially if the patient be costive.

Take cream of tartar two drams; of manna one ounce; dissolve them in a quart of barley water, or the pectoral drink.

How far it may be safe or advisable for the patients to venture out into the open air during this stage of the disease, Baron Dimsdale does not determine; but he is certain that they will be both refreshed and invigorated, by being kept out of bed as much as they can bear, without being over fatigued; and by fresh air let in sometimes through an open window.

As the violence of the eruptive fever, with its attendant complaints, must necessarily exhaust the strength and spirits, both should in this interval be recruited, by as much proper nourishment as can be taken without offending the stomach; and also, if occasion requires, with cordial and anodyne medicines. For this is the time to recover as much strength as possible, in order to be better able to encounter and bear the pain and fever, which will most certainly happen, as the state of maturation advances.

Of the CHICKEN-POX.

DR. Heberden is, I believe, the only writer that has given a satisfactory account of this disease, which, though in itself insignificant, becomes of importance by the similitude it bears to the small-pox. From the want of sufficient discrimination, persons who have had the former of these complaints, may be lulled into a false security, which may prevent them either from avoiding the infection of the small-pox, or from being inoculated.

The chicken-pox, or swine-pox, break out in many without any indisposition or previous sign; but in others, they are preceded by a little degree of chillness, lassitude, cough, broken sleep, wandering pains, loss of appetite, and feverishness for three days.

In some patients Dr. Heberden has observed them to make their first appearance on the back, but this perhaps is not always the case. Most of them are of the common size of the small-pox, but some are less. The Doctor informs us that he never saw them confluent, nor very numerous. The greatest number he ever observed, was about twelve on the face, and two hundred over the rest of the body.

On

On the first day of the eruption they are reddish. On the second day there is at the top of most of them a very small bladder, about the size of a millet seed; which is sometimes full of a watery and colourless, sometimes of a yellowish liquor, contained between the cuticle and skin. On the second, or, at the farthest, on the third day from the beginning of the eruption, as many of these pox as are not broken, seem arrived at their full maturity; and those which are fullest of that yellow liquor, very much resemble the appearance which the genuine small-pox have on the fifth or sixth day; especially where there happens to be a larger space than ordinary occupied by the extravasated serum. It happens to most of them, either on the first day that this little bladder arises, or on the day after, that its tender cuticle is burst by the accidental rubbing of the cloaths, or by the hands of the patient endeavouring to allay the itching with which the disease is accompanied. A thin scab is then formed at the top of the pox, and the swelling of the other part abates, without its ever being turned into pus, as it is in the small-pox. Some few escape being burst; and the little drop of liquor contained in the vesicle at the top of them, grows yellow and thick, and dries into a scab. On the fifth day of the eruption

they are almost all dried and covered with a slight crust. The inflammation of these pox is very small, and the contents of them do not seem to be owing to suppuration, as in the small-pox, but rather to what is extravasated immediately under the cuticle by the serous vessels of the skin, as in a common blister.

The patients hardly suffer any thing throughout the whole progress of this disease, except some languidness of strength, spirits, and appetite, all which are probably owing to the confining of themselves to their chamber.

The principal marks by which the chicken-pox may be distinguished from the small-pox, are, 1. The appearance on the second or third day from the eruption, of that vesicle full of serum upon the top of the pox. 2. The crust, which covers the pox on the fifth day, at which time those of the small-pox are not at the height of their suppuration.

From the great similitude between the two distempers, Dr. Heberden thinks it is probable, that some persons have been inoculated from the chicken-pox, instead of the small-pox.

The same writer observes, that there is sometimes seen an eruption, concerning which he has been in doubt, whether it be one of the many unnoticed

noticed cutaneous diseases, or only a more malignant sort of chicken-pox.

This disorder is preceded for three or four days by all the symptoms which fore-run the chicken pox, but in a much higher degree. On the fourth or fifth day the eruption appears, with very little abatement of the fever; the pains likewise of the limbs and back still continue, to which are joined pains of the gums. The pox are redder than the chicken-pox; spreading also wider, and hardly rising so high, at least not in proportion to their size. Instead of one little head or vesicle of a serous matter, these have from four to ten or twelve. They go off in the same manner as the chicken pox, and are distinguishable from the small-pox by the same marks. Besides which characteristics, the continuance of the pains and fever after the eruption, and the degree of both, though there be not above twenty pox, are, so far as Dr. Heberden has seen, what never happen in the small-pox.

Of the MEASLES.

THE season in which the measles are most frequent, is from the beginning of spring to the middle of summer; during which period they are incident to children, and infectious to such as have not formerly had the disease. Dr. Percival observes, that this distemper differs from the small-pox, in being much more fatal to males than to females.

The measles begin with shivering; chills, and flushes of heat, succeed each other alternately; the person is seized with nausea, sickness, and vomiting; a fever ensues, accompanied with a heaviness of the head, sleepiness, a troublesome cough, a discharge of lymph from the nostrils, sneezing, and an effusion of tears, with a dryness of the skin. When suckling infants are seized with this complaint, they generally have slight spasms, with *subfultus tendinum*, and their stools are of a green colour.

These symptoms commonly increase to the fourth day, when small red spots, scarcely elevated above the skin, but hard to the touch, and rough, begin to appear, first about the forehead, and afterwards spread over the body, increasing gradually in number, magnitude, and redness.

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The fever mean-while advances, with the cough, a difficulty of breathing, weakness of the eyes, and copious discharge of tears, and sleepiness.

When the spots have continued two or three days, they become pale and more rough, and the cuticle now breaking, desquamation succeeds. The cough, however, and difficulty of breathing remain; nor does the fever entirely subside till a critical diarrhæa supervenes.

If the disease be of an unfavourable kind, the patient of an adult age, plethoric, or of a bad habit of body, has lived freely, and too hot a regimen has been used in the beginning of the fever, all the symptoms are aggravated during the state of contagion, and the eruption becomes uncertain and long protracted. About the height of the disease the spots appear of a purple, livid, or black colour, and do not scale off. The fever is commonly considerable and extremely irregular, accompanied with great difficulty of breathing, a pain in the throat, anxiety, stupor, a comatose disposition, or a delirium. The disease now assumes the form of an angina, or a peripneumony, which either suffocates the patient, or is followed by some chronical disease.

Sydenham has observed that the measles were totally free from danger, if not unskilfully treated. But though this remark may be just in re-

spect of the more favourable kinds of the disease, it cannot be affirmed of every species, as appears from the history of the putrid measles which were frequent at London in the years 1763, and 1768.

In those epidemics, Dr. Watson observes, that bleeding was seldom omitted very early ; and if the cough and peripneumonic symptoms ran high, it was repeated even more than once during the first stage. But the patients did not seem to reap the same great benefit from it, as is usually seen in the common measles. In the second stage, when the febrile heat and eruptions were gone off, and the difficulty of breathing continued, bleeding, so much recommended by Sydenham in this state of the common measles, and which was tried in a few cases, did not relieve those complaints, but rather increased the patient's weakness. It was therefore no more ventured upon, but the relief of the sick was attempted by other means.

After blood-letting in the beginning of the disease, the cleansing the stomach and bowels with small doses of emetic tartar, was of remarkable service, by mitigating the symptoms. Cooling, mild antiseptics were afterwards directed, and the apartments were kept cool. If the patients had no purging, their common drink was
pectoral

pectoral decoction, with a due mixture of simple oxymel. If they disliked this, barley-water with vinegar, or balm-tea, were substituted. In a few cases, where the symptoms ran high, and there was a great restlessness, attended with a dryness of the skin, tepid bathing of the whole body, as long as the patient could conveniently bear it, was of great relief. This practice was chiefly confined to the inflammatory state of the disease; as afterwards, on account of the debility most usually attending the sick, it was not thought advisable. The use of blisters was not found to be so extensive in the first as in the second stage.

The treatment in the second stage was not only widely different from that in the first, but was also various, as symptoms indicated. Blisters, as has been observed, relieved many. As all the sick were greatly enfeebled, wine was given them, either in whey, or in their common drink. If griping colliquative stools come on, which often happened, an infusion of *radix serpentariæ Virginianæ*, with *confectio cardiaca*, was directed. To this were occasionally added some drops of Thebaic tincture, which was also sometimes given with small mutton broth, as a clyster. The food was rice gruel.

If the cough and difficulty of breathing were moderate, the weakness of the patients was greatly relieved

relieved, by taking liberally of a decoction of Peruvian bark. Where the disorders of the chest were moderate, this medicine was of great service; but by sometimes increasing the difficulty of breathing, it could not always be used, even when strongly indicated by putrid symptoms. Under these circumstances, the *radix serpentariæ Virginianæ* was generally substituted.

Late in the disease, when the stomach was enfeebled to a degree that the patients could not be prevailed upon to take any nourishment of the more solid kind, a draught of fresh milk, either alone or mixed with water, was most grateful; and tended much to alleviate the complaints, as well as recruit the strength.

During the spring and summer months of the year 1774, the measles were epidemical at Manchester, and proved fatal to a considerable number of children. They were of the regular kind; but it was not unusual for violent symptoms to occur, five, six, or even eight days after the disappearance of the eruption. Under these circumstances, venesection, blisters, and the seneka root, were found to be very efficacious remedies. To many of his patients, Dr. Percival, with great success, prescribed the Peruvian bark, combined with demulcents, and the saline mixture, in the following manner:

R Lix-

℞ Lixivii tartari ℥ii.

Succi limonum. q. f. ad saturationem.

Aquæ cinnamomi tenuis ℥ii.

Elixir. Paregorici—Vini antimonialis ana ℥iss.

Extracti cort. Peruvian—Extract. glycyrrhizæ ana
 ℥iv.

M.

Bleeding preceded the use of these remedies, if the signs of inflammation were urgent.

The practice of giving the bark in the measles was introduced by Dr. Cameron, an eminent physician at Worcester. He observed that it prevented the retrocession of the morbid acrimony, and continues the efflorescence on the skin, sometimes so long as the twelfth day. By this means the cough and other inflammatory symptoms are, in a great measure, obviated, and the patient is freed from all danger of a peripneumony. Dr. Percival informs us, that he has many years since adopted the method of cure recommended by Dr. Cameron; and he is fully convinced of its safety and efficacy in all ordinary cases. During the late epidemic, not a single instance occurred to him of the peripneumony succeeding the measles, when the bark had been employed.

It is observed that the measles, when violent or ill treated, frequently lay the foundation of hectic fevers, or pulmonary consumptions.

Near

Near twenty years ago, to prevent these evils, inoculation was proposed, and practised in several instances with considerable success, by Dr. Home, at Edinburgh. His method of communicating the infection was, by applying, to an incision in each arm, cotton moistened with the blood of a patient labouring under the measles. But the morbillous matter has since been ingrafted by means of lint, wet with the tears which flow from the eyes in the first stage of this disorder. By the ingenious expedient of Dr. Home, the soreness of the eyes was mitigated, the cough abated, and the fever rendered less severe; on which account it is to be regretted, that so little attention has been paid to this valuable improvement in practice.

The above account of the epidemics, which prevailed so lately at London and Manchester, is more worthy of notice, as Dr. Mead, who has treated of the measles, makes no mention of the putrid kind, and might therefore mislead inexperienced practitioners in the general treatment of the disease.

Of the SCARLET FEVER.

SYDENHAM has observed, that the scarlet fever generally makes its appearance towards the end of summer; that it attacks whole families, but particularly children; that they are seized with chilliness and shivering, as in other fevers, but not without much sickness. Afterwards the whole skin is covered with small red spots, more numerous, much broader, of a fuller red, but less uniform than those of the measles. After continuing two or three days, they disappear, and the skin is scaled off, a branny desquamation succeeding two or three times.

Sydenham used no medicines in this disease, but thought it sufficient that the patients abstained from flesh meats, and strong liquors, and that they kept within doors, but not in bed. When the desquamation of the skin is completed, he advises a gentle purge.

He observed however, that sometimes children or young persons were seized with epileptic convulsions or coma in the first stage of the eruption. It was then necessary to apply a large blister to the neck, to give a dose of diacodium, which

which was to be repeated occasionally, and to give milk, boiled with thrice its quantity of water, for common drink.

Such is the scarlet fever in its simple state, so mild and void of danger, that Sydenham hardly thought it deserved the name of a disease. By other writers, however, it has often been seen in a malignant form, and generally accompanied with a sore throat. This species of disorder, distinguished by the name of *Scarlatina Anginosa*, was last year extremely epidemic in the country round Birmingham, and is accurately described by Dr. Withering, to whom the public is much indebted for his assiduity in investigating the nature and method of cure of a disease formerly so little known in this kingdom.

The scarlet fever and sore throat first appeared in Birmingham, about the middle of May, 1772, and in the beginning of June was frequent in many of the towns and villages in the neighbourhood. It was preceded by some cases of the true ulcerated sore throat, and accompanied in its course through the summer by the chin-cough, the measles, the small-pox, and several instances of the true quinsy. It continued in all its force and frequency to the end of October, varying however in some of its symptoms as the air became colder. In the beginning of November it

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was rarely met with, but towards the middle of that month, when the air grew warmer, it again increased, and resumed in a great measure the appearance by which it had been distinguished in the summer.

It affected children more than adults; seldom however occurring in the former under two years of age, or in the latter when more than fifty. Among children it was almost equally incident to boys and girls; but in adults the number of female patients considerably exceeded that of the male; the probable reason assigned for which remark is, because the former were more employed in attendance upon the sick, and consequently more exposed to the infection.

On the attack of the disease the patients feel an unusual weariness, or inaptitude to motion; a dejection of spirits, and a slight foreness, or rather stiffness in the throat; with a sense of straitness in the muscles of the neck and shoulders, as if they were bound with cords. In a few hours chilly fits succeed, generally alternating with flushing heat; but at length the latter prevails. The patients then complain of a slight head-ach, and transient fits of sickness. They pass a restless night, not so much from pain, as from want of inclination to sleep.

Next day the soreness in the throat increases, and the sick find a difficulty in swallowing; a symptom which seems to proceed from an inability to exert the muscles of deglutition, rather than from any pain excited by the attempt, or any straitness of the passage. A total disrelish to food takes place, and the sickness frequently rises to a vomiting. The breathing is short, and often interrupted by a kind of sigh. The skin feels dry and hot, but not hard; and the patients experience frequent, small, pungent pains, as if touched with the point of a needle. Towards evening the heat and restlessness increase, and the breath is hot and burning to the lips. This night is passed with yet greater inquietude than the former. In the morning the face, neck, and breast appear redder than usual; in a few hours this redness becomes universal, and increases to a great degree, the face, body, and limbs being also evidently swollen. Upon pressure the redness vanishes, but soon returns, and the skin is smooth to the touch. The eyes and nostrils partake more or less of the general redness; and in proportion to the intensity of this colour in the eyes, the tendency to delirium prevails.

The patients continue nearly in this state for two or three days longer, when the intense colour gradually abates, succeeded by a brown, and the

skin becoming rough, peels off in small branny scales. The tumefaction subsides at the same time, and the patients gradually recover their strength and appetite.

During the whole course of the fever, the pulse is quick, small, and uncommonly weak. The belly is regular; the urine small in quantity, but hardly differing in appearance from that of a person in health. The submaxillary glands are generally enlarged, and somewhat painful when pressed by the fingers.

The tongue is red and moist at the sides and end, but drier in the middle, and more or less covered with a yellowish brown mucus. The velum pendulum palati, the uvula, the tonsils, and the gullet, as far as the eye can reach, partake of the external redness and tumefaction.

After the fever ceases, it is not uncommon to have abscesses on one or both sides of the neck; but the matter easily discharges itself through the ruptured teguments, and they heal in a few days without much trouble.

This is a description of the disease in its most usual appearance; but it frequently assumes a much more fatal form.

In children, the delirium commences a few hours after the first seizure. The body is intensely hot; the scarlet colour appears on the

first or second day, and they die very early on the third.

In others, who survive this rapid termination, when the scarlet colour turns to brown, and their recovery might be expected, the pulse still remains feeble and quick, the skin becomes dry, the mouth parched, the lips chapped and black; the tongue hard, dry, and of a dark brown, with the eyes heavy and sunk. The sick express an aversion to all kinds of food, and extreme uneasiness upon the smallest motion or disturbance. After lying in this way several days, a clear amber coloured matter flows in great quantities from the nostrils, or the ears, or both, the discharge continuing many days. Sometimes the matter evacuated has more the appearance of pus, mixed with mucus. Under these circumstances, when the patients do recover, it is very slowly; but they generally linger for a month or six weeks from the first attack, and die at length of extreme weakness.

In adults, the rapidity of the fever, delirium, &c. is such that they die upon the fourth or fifth day, especially if a purging supervenes; but some live to the eighth, or the eleventh day. In all these the throat is but little affected; and the eyes have an uncommon, equally shining red appearance, resembling those of a ferret; but they
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are not hurt by the strongest light. This appearance may often be discovered, some hours before it shews itself in the part of the eye that is usually visible, by lifting the upper eye-lid.

Besides the full scarlet colour above described, small circular spots of a livid colour frequently appear about the breast, knees, and elbows. The patients are extremely restless, clamorous, and desirous to drink; but after having swallowed one or two mouthfuls, upon taking another, they generally let it run out at the corners of the mouth; whilst others spurt it out with considerable force, and are very angry if urged to drink again. In these cases the scarlet colour appears very soon after the attack, but in an unsettled irregular manner; large blotches of red, and others of white being intermixed, and often change places. The pulse, from the beginning, is extremely quick, weak, and irregular.

Those were the appearances during the hot months; but in the month of October, when the air became colder, the scarlet colour of the skin was both less frequent and less permanent. In many patients it was not observable, whilst others, especially adults, had a few very small red pimples, crowned with white pellucid heads; which however appeared only in the parts where the skin is most tender. The inside of the throat

was considerably tumefied, so as to render deglutition painful and difficult; and the swelling was of a dull red, sometimes tending to a livid colour. In some patients this affection of the fauces seemed to extend down the gullet to the stomach, and was accompanied with painful efforts to vomit, particularly when any thing was swallowed. In others it spread itself down the trachea to the lungs, as was evident from the cough, the difficulty of breathing, and other peripneumonic symptoms. In different persons, its progress along the Eustachian tube was indicated by sharp pains in the ear. The eyes were less affected with the redness above described, but had a shining watery appearance, and were irritated by the light. The patients likewise had a constant soreness of the limbs, and frequently acute pains in the ancles, knees, wrists, and elbows, attended with more or less of a swelling where the pain was most violent.

Through the course of the disease large quantities of viscid mucus, and other matter of a purulent appearance, were from time to time discharged from the throat and nostrils. Some threw out several white or ash-coloured sloughs, though no such sloughs were visible upon inspecting the throat; but in most the fauces, particularly the tonsils, were covered with them, and
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upon their separation appeared raw, as if divested of their outer membrane.

The fever, under this autumnal appearance, for the most part terminated favourably on the fifth, eighth, or eleventh day ; but sometimes was protracted to a much greater length, by the formation of large painful abscesses. In several patients there was a numerous succession of boils upon different parts of the body. But in some no symptom was more troublesome than ulcerations at the sides and down towards the root of the tongue, which were so painful as to deprive the patients of the power of taking solid food, even several days after the inclination for it had returned.

The distress of the patients, however, did not terminate with the fever ; for in ten or fifteen days from the cessation of it, another train of symptoms appeared. After a few days amendment, the convalescents felt a great languor and debility, with a stiffness in the limbs, a quick pulse, disturbed sleep, a disrelish to food, and a diminution of the usual quantity of urine. These symptoms were soon followed by an universal swelling of the anasarcaous kind, and sometimes an ascites. In some patients the feverish disposition rose high, but in others it existed only in a moderate degree. In some the dropsy

affected the brain, producing coma-vigil, delirium, and blindness, with the most enlarged expansion of the iris, which was incapable of contraction in the strongest light. In others the dropsy fell upon the lungs, and produced every symptom of the true hydrops pectoris. The tongue was dry and brown, and the urine of a deep mahogany colour, small in quantity, and depositing a sediment of a yet deeper hue, in the form of a powder.

As the scarlatina anginosa bears so great a resemblance to the ulcerated sore throat in many of the symptoms, it will be proper to point out such as are considered as most characteristic of the disease; and this distinction is the more necessary, as these two disorders differ so much in their nature from each other, the former being of an inflammatory, and the latter of a putrid kind.

The scarlatina anginosa, or scarlet fever and sore throat, prevails most in summer and autumn, in hot and dry weather, and in situations that are elevated, dry, and gravelly. It seizes both sexes alike, and the robust are in most danger. The skin is of a full scarlet colour, smooth, or, if pimply, the pimples are white at the top. Their eyes are shining, with an equable, intense redness, and seldom watery. In summer, the tonsils, &c. are little tumefied, and have

no floughs. In autumn, however, they are more swelled, and are covered with white floughs. The breath is hot, but not fetid; the voice, in summer, is natural; the bowels at the accession are regular, the blood is buffy and firm, and the disease terminates on the third, fifth, eighth, or eleventh day.

The angina gangrenosa, or ulcerated sore throat, on the contrary, prevails most in spring and winter, when the weather is warm and moist, and in places that are close, low, damp, and marshy. It seizes chiefly delicate women, and female children: robust adults are in least danger. The skin is of a red tinge, and pimply; the pimples are redder than the interstices, and the skin is bedewed with sweat towards morning. The eyes are inflamed and watery, or sunk and dead. The throat, tonsils, &c. are considerably swelled and ulcerated; the floughs being of a dark brown. The breath is offensive to the patients and their attendants; the voice is flat and rattling; a purging accompanies the accession of the disease; the blood is florid, and tender, and the disorder has no stated period.

Dr. Withering has offered to the public some pathological positions relative to this disease, with the view of establishing a more certain and determinate method of cure.

First,

First, he observes, that the immediate cause of this disease is a poison of a peculiar kind, communicated by contagion.

Secondly, that this poison occupies the mucous membrane lining the fauces and the nose; and either by its action upon the secretory glands, or upon the mucus itself, assimilates the latter to its own nature.

Thirdly, that it is from this beginning, and this only, that it spreads to the stomach, &c. and at length acts upon the system at large.

Fourthly, that its first action upon the nerves is that of a sedative or debilitating power.

Fifthly, that in consequence of certain laws of the nervous system, when the debilitating effects operate upon the sensorium commune, a reaction takes place; and that this reaction is, *cæteris paribus*, proportioned to the debilitating power.

Sixthly, that in consequence of this reaction of the nervous system, the vibratory motion of the capillary blood-vessels is greatly increased; an unusually large quantity of blood is accumulated in those vessels; the heart and large arteries are thence deprived of their customary proportion; and the pulse, though stimulated to more frequent contraction, must necessarily be feeble.

Seventhly, violent exertions are followed by debility. Upon the cessation of the fever, the capil-

capillary vessels, which had acted with such unusual violence, are left in a state of extreme debility, and are long in recovering their tone; on which account so many patients afterwards become dropfical.

In respect of the method of cure, Dr. Withering observes, such was the state of the pulse during the summer months, that he never saw a case in which blood was taken away; and that in those cases where the inflammation upon the surface is very great, the loss of blood can only contribute to the further depletion of the larger vessels; thereby increasing the debility and faintness which already exist in a most alarming degree. For the small vessels accumulating the blood, more in consequence of their own action than from the force of the heart, would not be affected by the usual mode of blood-letting; and the extent of the inflammation is much too great to allow us to have recourse to topical bleedings.

He informs us, that sometimes, where the fiery redness of the eyes, and the state of delirium, seemed to demand the application of leeches to the temples, he has seen them applied, but never with any good effect. He thinks, therefore, that when the scarlet colour upon the skin is intense, we cannot expect any benefit, either from topical or general bleedings.

In

In the autumn, when the scarlet colour of the skin was seldom very intense, and often did not appear at all, the tumefaction of the fauces was generally much greater, and the pulse considerably more firm. In this case, if the patient was threatened with suffocation, if violent head-ach, or if peripneumonic symptoms pointed out the expediency of blood-letting, it was sometimes performed; but still with less advantage than might have been expected in almost any other situation.

Vomiting, Dr. Withering observes, seems to be the remedy of nature, and he is convinced that the liberal use of emetics is the true foundation for successful practice in the cure of this disease. In the very first attack, a vomit seldom fails to remove the disorder at once. If the infectious miasma has begun to exert its influence upon the nervous system, emetics stop its farther progress, and the patients quickly recover. If it has proceeded yet further, and occasioned that action in the capillaries, which exists when the scarlet colour of the skin takes place, vomiting never fails to procure a respite to the anxiety, the faintness, and the delirium.

In autumn, when the throat was more affected; when the tumefaction of the fauces was such that the patients could not swallow but with the utmost

most difficulty ; when the peripneumonic symptoms threatened suffocation, and bleeding afforded little or no relief, an emetic opened the gullet, and unloaded the lungs, so that deglutition became easy, and respiration free.

Dr. Withering remarks, however, that a vomit only sufficiently strong to evacuate the contents of the stomach, is by no means adequate to these effects. The vomit must be powerful, and in ordinary cases repeated once in forty-eight hours. In patients with more urgent symptoms it must be given daily, and in the worst cases twice in twenty-four hours. The relief which the patients feel from the operation appears both in the countenance and pulse. The emetic generally used by Dr. Withering, was tartar emetic, combined with ipecacuanha.

He considered the action of purgatives as entirely repugnant to the curative indications of the disease, and his opinion of their unsuitness was confirmed by observing their pernicious effects.

In respect of sudorifics and alexipharmacs, Dr. Withering observed that the patients are not disposed to sweat when the scarlet prevails upon the skin, nor does he know of any method by which we could with safety attempt to excite a diaphoresis, even if we should expect it to prove advantageous. Under the autumnal appearance of
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the disease, when the skin had none of the scarlet colour, a warm bed, and warm diluents, would easily induce a moisture upon it; but he never saw the diaphoresis productive of any evident advantage.

Though cordials seem to be indicated by the great loss of strength, and the weakness of the pulse, Dr. Withering remarks, that those who are aware of the true cause of this debility, will not readily be induced to give them. He has known them administered; but the certain consequence was an increase of the restlessness, of the delirium, and of the heat. Having observed the mild and gently stimulating effects of the contrayerva to be particularly grateful to the fauces, he has in many instances used it, and mostly in conjunction with testaceous powders, which sit easy on the stomach, and counteract the tendency to purging. The camphor julep likewise, it is observed, gives nearly the same pleasing sensation to the throat.

Dr. Withering discovered, that next to emetics, diuretics are the medicines most to be depended upon in the cure of this disease. With this intention he made use of the vegetable fixed alkali, of which he gave a small quantity in almost every thing that the patients drank, so as
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to get down one or two drachms every twenty-four hours.

We are informed, that no medicine ever had a fairer or fuller trial in any disease, than the Peruvian bark had in this epidemic. The great prostration of strength, the feeble pulse, and the sharp heat upon the skin, with here and there a livid spot, were thought to be so unquestionable evidences of the putrid tendency of the disease, and the broken texture of the blood, that the bark was administered with a liberal hand. In the autumn, this practice seemed to be farther justified by the increased disease in the throat, and the sloughed appearance of the tonsils.

These symptoms, which might mislead an unexperienced practitioner to confound this disease with the ulcerated sore throat, proceeds from a cause very different from that which occasions them in the latter. Dr. Withering remarks, that the livid spots appear only where the cutaneous inflammation runs to its highest state, and are most probably owing to the rupture of some capillary blood-vessel. The sloughed tonsils, he observes, are likewise the consequence of a very high degree of inflammation, which is often kept up by an improper use of the bark and cordials. In some instances, the inflammation attendant upon the disease is in itself sufficient to produce
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the sloughs ; but they are generally the consequence of neglect or improper management. For Dr. Withering informs us, that if the patient from the beginning is treated upon the plan he recommends, the sloughs either never appear, or, if they have appeared, never increase, and in twenty-four hours totally vanish. But when the inflammation is augmented by large and frequent doses of bark, the tumefaction surprisingly increases, and the whole lining of the fauces is quickly converted into a stinking slough. Dr. Withering however admits, that many patients recover who take the bark. The fact, he says, seems to be, that in mild cases an improper treatment is not highly detrimental, and it is only in the more dangerous state of the disease that we can do much harm.

Dr. Withering, finding that no good was to be expected from the bark, had recourse to fixable air, which he had often given in fevers where circumstances forbade the use of the former ; but it seemed to produce no effects, either advantageous or hurtful.

The dulcified mineral acids in small quantities afforded no benefit, and when given more freely increased the heat and inflammation. Bottled small beer, and cyder, were frequently asked for by the patients, and the first and second time
swal-

swallowed with great avidity ; but they soon were disliked, and even the persons who attended the sick remarked the increase of heat and restlessness which those liquors occasioned.

In case of great inquietude and watchfulness, both Navier and Plewiz advise giving opium in small doses ; but Dr. Withering observed, that instead of answering the intention, it visibly increased the distress of the patient.

During the appearance which this disease assumed in summer, blisters were universally detrimental ; they never failed to hasten the delirium, and if the case was one of the worst kind, they too often confirmed its fatal tendency. But, says Dr. Withering, when the pulse is so feeble that the nicest finger can hardly count its strokes for a quarter of a minute together ; when the oppression and anxiety of the patient is very great ; when the physician expects that a few hours more will terminate a life already sunk to so low an ebb ; and when the friends will perhaps censure him if he forbears to try the efficacy of an application so universally, and even so indiscriminately used, it is not easy to resist the importunities of such symptoms, under such circumstances. It was often observed, however, that blistered patients died, whilst those who were not blistered never failed to recover.

In the autumnal season, when the inflammation was less generally diffused through the body, blisters were less detrimental. If the brain was affected soon after the attack, they did much mischief; but if the inflammation was mostly confined to the fauces, a blister was frequently applied round the throat, with less advantage, however, than the practice in quinsies, ulcerated fore throats, and other local inflammations, might induce one to expect.

In the summer, the affection of the throat was often so trifling as not to demand any particular attention; but when the inflammation and swelling in the fauces became a principal cause of complaint, the use of gargles was very grateful to the patient. A decoction of contrayerva, sweetened with oxymel of squills, is what Dr. Withering most frequently used; sometimes barley-water, acidulated with the marine acid; and sometimes the tincture of roses. When these gargles are forcibly injected, by means of a large pewter syringe, with a long pipe to reach over the tongue, an amazing quantity of viscid ropy stuff is discharged, both from the fauces and nostrils.

Cataplasms of different kinds were applied round the neck, without any obvious advantages, and Dr. Withering thinks, that the less additional

tional covering is made to the throat, it is the better.

In the heat of summer, the patients could hardly be kept sufficiently cool. A mattrafs to lie upon was found preferable to a feather bed, with the lightest covering for the body, and a free circulation of air. Patients that could sit up, were allowed only to lie down occasionally; and those whose strength would admit of it, were ordered frequently out of doors. This method a little varied, we are told, succeeded very well through the greater part of autumn; but during the winter cold, it was necessary to keep them more in bed, and in a room moderately warmed.

Those who were only slightly indisposed were kept pretty much from animal food and fermented liquors. Those in a worse situation were allowed tea, coffee, chocolate, milk and water, gruel, barley-water, &c. and occasionally weak wine-whey, or nitre-whey. But nothing was more acceptable than a full draught of water fresh drawn from the spring. In this the patients were indulged in every exacerbation of heat, restlessness, or delirium, and it seldom failed to procure a temporary abatement of these distressing symptoms.

When the fever ceased, Dr. Withering generally gave a few grains of calomel, which was

worked off next day with Rochelle salts, or any other mild purgative. If the convalescents were still troubled with watchfulness, opiates were prescribed; and in the day-time bark, with small doses of salt of steel. If the debility was considerable, wine was allowed rather liberally; but nothing afforded so immediate relief as the application of blisters.

Whether the leucophlegmatic appearances be the necessary consequence of the scarlet fever and fore throat, in persons particularly predisposed to become dropical; or whether they be the result of negligent or improper management, Dr. Withering does not determine; but he has never met with an instance of a patient becoming dropical, who had been treated, during the fever, according to the method above described.

When called upon to visit patients in this situation, he commonly begins with giving calomel at night, and a mild purgative in the morning.

If a febrile pulse accompanies the other symptoms, an emetic, he says, is useful; as are also the saline draughts, and other neutral salts. In case of great debility, comatose or peripneumonic symptoms, large and repeated blisters are of remarkable service. But in common cases, when the dropical symptoms are the principal complaint, small doses of calomel and rhubarb, given
occa-

occasionally to keep the bowels open, dilute solutions of fixed alkali, squills, Seltzer water, and other diuretics, must be adapted to the disposition and temperament of the patient. When the urine flows freely, steel and other tonics must be employed; and the recovery will be greatly promoted by gentle exercise, high seasoned food, wine, and the wearing of flannel next the skin.

Of the HECTIC FEVER.

THIS fever is frequently so obscure in its origin, and for the most part so slow in its progress, that it often escapes observation in the earlier stages of the disease; and its history, therefore, has been less clearly delineated than that of other febrile disorders. But this defect is in a great measure supplied by the late valuable observations of Dr. Heberden, to which I shall here have recourse.

The appearance of the hectic fever is not unlike that of the genuine intermittent, from which, however, the disease is very different in its nature, as well as infinitely more dangerous. In the true intermittent, the three stages of cold, and

M 3 heat,

heat, and sweat, are far more distinctly marked ; the whole fit is much longer ; the period which it observes is more constant and regular, and the intermissions are more perfect, than in the hectic fever. For in the latter, even in the clearest remission, there is usually a feverish quickness perceptible in the pulse, which seldom fails to exceed the utmost limit of a healthy one by at least ten strokes in a minute.

The chillness of the hectic fever is sometimes succeeded by heat, and sometimes immediately by a sweat, without any intermediate state of heat. The heat will sometimes come on without any remarkable chillness preceding ; and the chillness has been observed to go off without being followed either by heat or sweat. The duration of these stages is seldom the same for three fits together ; and as it is not uncommon for one of them to be wanting, the length of the whole fit must vary much more than in the true intermittent ; but in general it is much shorter.

The hectic patient is little or nothing relieved by the coming on of the sweat ; but is often as anxious and restless under it, as during the chillness and heat. When the sweat is over, the fever will sometimes continue ; and in the middle of the fever the chillness will return ; which is a most certain mark of this disease.

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The hectic fever will return with great exactness, like an intermittent, for two or perhaps three fits ; but Dr. Heberden informs us, that he does not remember ever to have known it keep the same period for four fits successively. The paroxysm will now and then keep off for ten or twelve days ; and at other times, especially when the patient is very ill, it will return so frequently on the same day, that the chillness of a new fit will follow immediately the sweat of the former. It is not unusual to have many threatenings of a shivering return in the same day ; and some degree of drowsiness is apt to attend the cessation of a fit.

The urine in a true intermittent is clear in the fits, and turbid in the intervals ; but in the hectic fever it is liable to all kinds of irregularity. It will be equally clear or turbid in both stages ; or turbid in the fits and clear in the intervals ; and sometimes it will be, as in a true intermittent, clear during the fever, and thick at the going off.

Hectic patients often complain of pains like those of the rheumatism, which either affect by turns almost every part of the body, or else return constantly to the same part ; which is often at a great distance from the seat of the principal disorder, and, as far as is known, without any

peculiar connexion with it. Those pains are so violent in some patients, as to require a large quantity of opium. As far as Dr. Heberden has observed, they are more common, where the hectic arises from some ulcer open to the external air, as in cancers of the face, breasts, &c. Joined with this fever, and arising probably from one common cause, he has been surpris'd to see swellings of the limbs, neck, or trunk of the body, rise up almost in an instant, as if the part was all at once grown fatter. These swellings are not painful, hard, or discoloured, and they continue for several hours.

Dr. Heberden has seen this fever attack those who seem'd in tolerable health, in a sudden and violent manner, like a common inflammatory one, and like that, also, in a very short time bring them into imminent danger of their lives ; after which it has begun to abate, and to afford hopes of a perfect recovery. But though the danger might be over for the present, and but little of a fever remain, yet that little has soon shew'd, that it was kept up by some great mischief within, and, proving unconquerable by any remedies, has gradually undermined the health of the patient, and never ceased, except with his life. This manner of its beginning, however, is extraordinary. It much oftener dissembles its strength at first, and
creeps

creeps on so slowly, that the subjects of it, though they be not perfectly well, yet for some months hardly think themselves ill ; complaining only of being sooner tired with exercise than usual, of want of appetite, and of falling away. But gentle as the symptoms may seem, if the pulse be quicker than ordinary, so as to have the artery to beat ninety times, and perhaps a hundred and twenty times in a minute, there is the greatest reason to be apprehensive of the event. In no disorder, perhaps, is the pulse of more use to guide our judgment than in the hectic fever : yet even here we must be upon our guard, and not trust entirely to this criterion ; for one in about twenty patients, with all the worst signs of decay from some incurable cause, which irresistibly goes on to destroy his life, will shew not the smallest degree of quickness, nor any other irregularity of the pulse, to the day of his death.

This fever will supervene whenever there is a great collection of matter formed in any part of the body ; but it more particularly attends upon the inflammation of a scirrhus gland, and even upon one that is slight, and only just beginning ; the fever growing worse in proportion as the gland becomes more inflamed, ulcered, or gangrenous. And such is the lingering nature of those glandular disorders, that the first of those stages will continue

tinue for many months, and the second for some years.

If this scirrhus inflammation be external, or in the lungs, or some of the abdominal viscera, where the disturbance of their functions plainly points out the seat of the disorder, no doubt can be entertained concerning the cause of the fever. But if the part affected be not obvious to the senses, and its precise functions be not known, the hectic, which is there only part of the train of another disease, may be mistaken for the primary or only one.

Lying-in women, on account of the violence sustained in delivery, generally die of this fever. Women of the age of near fifty and upwards are particularly liable to it. For, upon the cessation of their natural discharge, the glands of the breasts, ovaries, or womb, too commonly begin to grow scirrhus, and proceed to be cancerous. Not only these, but the glandular parts of all the abdominal viscera, are disposed to be affected at this particular time, and to become the seats of incurable disorders.

The injuries done to the stomach and liver by hard drinking are attended with similar symptoms, and terminate in the same manner.

Dr. Heberden observes, that the slightest wound by a fine pointed instrument is known upon some occasions

occasions to bring on the greatest disturbances, and the most alarming symptoms, nay even death itself. For not only the wounded part will swell and be painful, but by turns almost every part of the body; and very distant parts have been known to come even to suppuration. These symptoms are constantly accompanied with this irregular intermittent, which lasts as long as any of them remain.

This anomalous fever is never less dangerous than when it belongs to a kindly suppuration, into which all the diseased parts are melted down, and for which there is a proper out-let.

The symptoms and danger from some small punctures, with their concomitant fever, most frequently give way in a few days; though in some persons they have continued for two or three months, and in others have proved fatal.

The inflammation of internal scirrhus glands, or of those in the breasts, sometimes goes off, and the fever, which depended upon it, ceases; but it much oftener happens, that it proceeds to cancerous and gangrenous ulcers, and terminates only in death.

The same medicines are not likely always to suit a fever, which, arising from very different causes, is attended with such a variety of symptoms.

toms. A mixture of asafetida and opium has in some persons seemed singularly serviceable in this fever, when brought on by a small wound; but in most other cases the principal, if not the sole, attention of the physician must be employed in relieving the symptoms, by tempering the heat, by preventing both costiveness and purging, by procuring sleep, and by checking the sweats. If at the same time, continues Dr. Heberden, he put the body into as good general health as may be, by air, exercise, and a proper course of mild diet, he can perhaps do nothing better, than to leave all the rest to nature. In some few fortunate patients nature appears to have such resources, as may afford reason for entertaining hopes of cure, even in very bad cases. For some have recovered from this fever attended with every sign of an abdominal viscus incurably diseased, after all probable methods of relief from art had been tried in vain, and after the flesh and strength were so exhausted, as to leave scarce any hopes from nature. In those deplorable circumstances, there has arisen a swelling not far from the probable seat of the disorder, and yet without any discoverable communication with it. This swelling has come to an abscess, in consequence of which the pulse has soon returned to its natural state, as have also the appetite, flesh, and strength. What
nature

nature has performed in those rare cases, Dr. Heberden acquaints us he has often endeavoured to imitate, by making issues, or applying blisters near the seat of the disease; but he cannot say with the same success.

It seems at present, Dr. Heberden observes, the opinion of many practitioners, that the gangrenes will be stopped, and suppuration become more kindly, by the use of bark; and therefore this remedy is always either advised or permitted in the irregular fever joined with suppurations and gangrenes. But he affirms he does not remember ever to have seen any good effect from the bark in this fever, unattended with an apparent ulcer; and even in gangrenes it so often fails, that in successful cases, where it has been administered, there must be room for suspicion, that the success was owing to another cause. Dr. Heberden acknowledges, at the same time, that he never saw any harm from the bark, in these, or indeed in any other cases, except a purging or sickness of no consequence, where it has happened to disagree with the stomach, or where the latter has been loaded by taking the medicine too fast, especially in dry boluses wrapped in wafer paper.

In hectic illnesses, where all other means have proved ineffectual, a journey to Bath is usually
proposed

proposed by the friends, and wished for by the sick ; but Dr. Heberden justly observes, that besides the fatigue, and many inconveniencies of a journey to a dying person, the Bath waters are peculiarly hurtful in this fever, which they never fail to increase, and thereby aggravate the sufferings, and hasten the death of the patient.

Of the PUERPERAL, or CHILD-BED FEVER.

THIS species of fever, as its name imports, is peculiar to women in child-bed, and is usually the most fatal of all the disorders to which the sex is liable. But, notwithstanding the prevalence of it in all ages, its real nature has remained, to the present times, a subject of much dispute and uncertainty. The critical period of its invasion, when febrile commotions are apt to be excited by various accidents, and the equivocal symptoms which accompany it, have even afforded room for questioning whether it be a primary or a secondary disease. Some writers have considered it as proceeding entirely from an inflammation of the uterus; others have imagined it to be the consequence of an obstruction
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to the secretion of the milk; while the greater number has been inclined, for reasons equally, if not more plausible, to impute it to a suppression of the lochia. If we examine this fever attentively, however, according to its natural course, and independently of all the accidental concomitant symptoms with which it is not essentially connected, we may safely pronounce it to be a primary disease of a particular characteristic, and perhaps not the necessary consequence of any of the causes above-mentioned.

This fever is most generally incident to women within forty-eight hours after delivery, though it may supervene on the fourth or fifth day, and sometimes considerably later. It is preceded, like other fevers, by a rigor, which is commonly violent, and when happening during the time of labour, may be confounded with the pains of parturiency. In its earlier stage, it is attended with the signs of inflammation. A great pain is felt in the back, hips, and the region of the uterus; which, in the part last mentioned, is accompanied with the sense of heat and throbbing. A sudden change in the quality or quantity of the lochia now also takes place; the patient is frequently troubled with a *teneismus*, and the urine, which is very high coloured, is discharged in small quantity, and with pain. At
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the first attack of the fever, the woman is generally seized with a vomiting of porraceous matter, as in the *cholera morbus*, to which disease it then bears a strong resemblance. But instead of this symptom, there is sometimes only a nausea, or loathing of the stomach, with a disagreeable taste in the mouth. The belly swells to a considerable bulk, and becomes susceptible of painful sensations from the slightest impression. The tongue is generally dry, though sometimes moist, and covered with a thick brownish fur. When the fever has continued a few days, the symptoms of inflammation usually subside, and the disease acquires a more putrid form. At this period, if not at the very beginning of the disorder, a bilious or putrid diarrhœa, of a dangerous and obstinate nature, supervenes, and accompanies it through all its future progress; each motion to stool being preceded by a temporary increase, and followed by an alleviation of pain. The patient usually nauseates all kind of food and drink, except what is cold and acidulated. A brown or blackish *sordes*, the consequence of putrid exhalations, adheres to the edges of the teeth; a troublesome hiccup is at length produced, which greatly exasperates the pains of the abdomen; *petechiæ* or *vibices* also appear, with sometimes a miliary eruption, but which produces no mitigation

tion of the disease. Through the whole course of the fever, the patient is affected with great anxiety and dejection of spirits.

Such in general is the course of the puerperal fever; the symptoms of which, however, may be often varied, according to the constitution of the patient, the degree of the disease, and its earlier or later invasion. When the woman is naturally weak, or her strength has been greatly reduced by immoderate evacuations after delivery; when the disease is violent, and immediately follows that period, its progress and termination are proportionably rapid and fatal. In such unfortunate circumstances, many have been known to expire within twenty-four hours from the first attack of the disease; nay, there are some instances where the rigor has concluded the scene. The catastrophe however is, most generally, suspended for some days, and the number of these is variable, though the eleventh, from the commencement of the fever, may justly be fixed as the period which is usually decisive. In whatever stage of the disease an unfavourable termination may happen, it would seem as if the commencement of the patient's recovery were not marked by any critical revolution of the fever, as depending on an alteration of the humours; but that the cure is gradually effected, either by a spontaneous vo-

miting, or a long continued discharge, by stool, of that porraceous matter, the existence of which, in the stomach, is usually evinced at the first attack of the disease. The most unfavourable prognostic, therefore, arises from such a weakness of the patient as renders her unable to support under so tedious an evacuation as that by which the fever is overcome. When the lochia return to their former state, when the swelling and tenderness of the abdomen abate, and there is a moisture on the skin, we have reason to hope for a happy termination of the disease.

Though the puerperal fever may generally be ascertained from the description which has been given, and chiefly by that remarkable tenderness of the abdomen, which particularly distinguishes it; yet, as some of its symptoms may be confounded with those arising from other diseases, and which require a different method of cure, it will be proper to mention here the circumstances whereby it may be known with greater certainty.

The pains of the abdomen, attending the child-bed fever, may be distinguished from those called after-pains, by their uninterrupted continuance through the course of the disease, though sometimes they suffer exacerbations; whereas, in the latter, they often totally intermit. They are
also

also distinguishable by the absence of fever, with concomitant symptoms in the one, and their evident existence in the other.

Many circumstances evince a dissimilarity between the puerperal and miliary fevers, notwithstanding the symptoms of anxiety and oppression are common to both; insomuch that the nature of the approaching disease may be ascertained at the very commencement of its attack. In the puerperal fever the rigor is more violent, of longer duration, and not interrupted, as in the other. The pulse is fuller and stronger, the skin is more hot, and the tongue, whether moist or dry, though generally the latter, is not of a white, but brownish appearance, and the urine is also higher coloured. Eruptions, which are critical in miliary fevers, procure no mitigation of the puerperal, and cordials generally increase it.

When the original attack of the puerperal fever happens to coincide with the febrile commotion which is excited in child-bed women by the milk, the nature of it may at first be misapprehended; but the concomitant symptoms, and greater violence of the disease, must in a short time dissipate such an error.

From all the most accurate accounts of this disease, and from the period at which it generally commences, there seems reason to conclude, that

it owes its rise more immediately to accidents after delivery. For it is allowed that it may follow a labour under the best and most favourable circumstances, though endeavours to dilate the *os internum* are supposed frequently to produce it. The more immediate causes generally assigned by authors are a stoppage of perspiration, the too free use of spices, and the neglect of procuring stools after delivery; sudden frights, too hasty a separation of the *placenta*, and binding the abdomen too tight. The putrid appearance, however, which this disease so soon assumes, affords ground to suspect that the pre-disposing cause of it is a vitiated state of the humours; for it is generally observed to be most prevalent in an unhealthy season, and among women of a weakly and scorbutic constitution.

Within these few years this fever has been treated of by several writers, most of whom have differed from each other in their sentiments of the nature of the disease. The first in the order of publication is Dr. Denman, who seems to be of opinion that it may derive its origin either from a redundancy or too great acrimony of the bile, the secretion of which appears to be much interrupted in the time of gestation. In my treatise on this fever, I mentioned its being highly probable that such a cause contributes greatly to produce

produce the disease, especially where the putrid tendency of the humours is increased by unwholesome air and diet.

It has likewise been the fate of the puerperal fever, that no disease has more divided the sentiments of physicians, in regard to the method of cure. The apparent indications and contra-indications of bleeding, and other remedies, arising from the complication of inflammatory and putrid symptoms; the equivocal appearance of the vomiting and purging, as whether they are critical or symptomatical; and the different causes whence symptoms similar to each other may arise in pregnant women; all these circumstances concur to involve the subject in great obscurity and indecision. If we carefully attend to the several characteristics of the disease, however, so as to be able to distinguish it from every other puerperal complaint; and observe at the same time, the usual manner of its declension, our judgment may be guided in the method of cure by the salutary efforts of nature. But, in order to obtain a clearer view of the genuine indications, it will be proper to consider them under the several lights in which they have been generally agitated by authors.

One of the most essential points to be ascertained, in the cure of the child-bed fever, respects

the propriety of bleeding. A free use of the lancet has been generally regarded as the most successful expedient in practice; and there are some instances of critical hæmorrhages which would seem to confirm its utility. But the last mentioned writer thinks we may safely affirm from experience, that for one who will be benefited by large bleeding, a much greater number will be injured, and that even almost irretrievably. Nor can this seem surprising, when we consider the situation of child-bed women. In most, the evacuations consequent upon delivery are sufficient to diminish any undue superabundance of the fluids; and if, as frequently happens, the disease be produced by too hasty a separation of the *placenta*, the consequence of which is generally a very copious discharge of blood, can we ever suppose that nature will be assisted in overcoming the febrile commotion, by the farther evacuation of the vital fluid, through the defect of which she is now rendered unequal even to the ordinary support of the animal œconomy? We may appeal to every practical physician, how much he has known the pulse to sink, and what a train of nervous symptoms he has observed to succeed an excess of the discharge abovementioned. Besides, it is an axiom in physic, that a remedy which cures any disorder, will always
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prove sufficient to prevent it; and therefore if bleeding were the proper cure in the child-bed fever, the disease ought to have been prevented by a large evacuation of blood, when that happened previous to its seizure. Experience, however, in this, as in all other diseases, is the only unerring guide we can follow; and whoever regulates his practice by fact and observation, will be convinced that bleeding, especially in a larger quantity, is, in general, very far from being attended with success. Indeed I am so sensible of this fact, that for several years I have seldom advised bleeding, except in women of plethoric constitutions, and in whom the signs of inflammation rose high. Nor even in such patients, ought it to be repeated without great caution, and the existence of strong indications. Bleeding, when used in proper circumstances, may unquestionably palliate the fever, but that it often shortens the duration of it, appears to be a matter of much doubt. On this account the practice becomes still more suspicious and exceptionable, when we consider that by venesection improperly used, the person's strength may be so far reduced, as not to support the tedious looseness by which the disease is generally carried off. Though bleeding, however, ought in general to be used with great caution, there

are certainly many cases in which it is both necessary and advantageous.

The genuine nature and effects of the looseness, in this disease, is another controverted point of the highest importance, and which merits the most attentive inquiry. Physicians, observing that women who die of the puerperal fever are generally molested with that evacuation, have been induced to consider this symptom as of the most dangerous and fatal tendency, and what, therefore, we should endeavour by every means to restrain. In this opinion, however, they would seem to have been governed by too partial an observation of facts. For experience certainly authorizes the assertion, that more women appear to have recovered of the child-bed fever, through the intervention of a diarrhœa, than have been destroyed by that cause. If it also be considered, that purging is usually the almost only sensible evacuation in the more advanced state of the disease, and is that which accompanies it to its latest period, we shall have the strongest reason to think, that it is critical, rather than symptomatical, and ought therefore to be moderately supported, instead of being unwarily restrained. Nay, the advantage which is found to attend vomiting as well as purging, in the earlier stage of the disease, would seem to evince that the matter discharged

charged by those evacuations is what chiefly foments the disease. I am so fully convinced from experience, of the benefit arising from the use of emetic and purgative remedies in the child-bed fever, that I think they are the only medicines on which any rational dependence is to be placed; at least, they are certainly such as I have found the most successful. It is an established rule in practice, to prescribe a vomit at the beginning of every fever attended with any nausea or loathing of the stomach, and where there is not any reason to apprehend an inflammation of that organ. Nor does the state of child-bed women afford the smallest ground for prohibiting our recourse to the same expedient, in answering a similar indication.

It is so seldom a physician is called during the rigor preceding the puerperal fever, that he has few opportunities of trying the effects of remedies in that early state of the disease. When such occur, however, we should endeavour as much as possible to abate and shorten that period, as the succeeding fever is generally found to bear a proportion to the violence and duration of it. For this purpose warm diluting drinks should be plentifully used, with a small quantity of volatile
spirits

spirits or brandy. When I have apprehended such an accident, I sometimes ordered the nurse to give immediately a dish or two of warm sack-whey; taking care that it was not too strong, which is a caution that ought always to be remembered. For though a freer use of the more cordial and spiritous kinds of liquors might perhaps sooner abate the rigor, there is danger to be feared from their influence on the approaching fever, especially in women of a strong and healthy constitution. In all cases, warm applications to the extremities; such as heated bricks, towels, or toasted grains in a linen bag, may be used with perfect safety, and some advantage.

When the hot fit is advanced, the first thing I commonly order is some emollient injection, as chicken-water, or water and milk, which ought to be frequently repeated through the course of the disease. These prove beneficial, not only by promoting the discharge from the intestines, which seems in fact to be the solution of the disease, but also by acting as a kindly fomentation to the uterus, and adjacent parts. In this intention they are particularly serviceable when the lochia are suppressed. Great care, however, is requisite in administering them, on account of the tenderness, and inflammatory disposition, which

which at that time render the parts in the pelvis extremely susceptible of pain.

The next step in the method of cure ought to be to promote the discharge of the morbid matter, both by the stomach and intestines. This intention is best answered by the remedy prescribed by Dr. Denman, of which the following is the receipt.

℞ Tartar. emetic. gr. ii.

Ocul. cancror. præp. ℥i. intime misceantur.

Of a powder thus prepared, Dr. Denman gives from two to six grains, and repeats it as circumstances require. If the first dose does not procure any sensible operation, he repeats it in an increased quantity at the end of two hours, and proceeds in that manner; not expecting any benefit but from its sensible evacuation.

Should the disease be abated, but not removed, (which sometimes happens) by the effect of the first dose, the same medicine must be repeated, but in a less quantity, till all danger is over. But if any alarming symptoms remain, he does not hesitate one moment to repeat the powder, in the same quantity as first given; though this is seldom necessary, if the first dose operates properly.

It is to be observed, says Dr. Denman, that as the certainty of cure depends upon the proper repetition

repetition of the medicine, the method of giving it at stated hours does not appear eligible. If the first dose produces any considerable effect by vomiting, procuring stools, or plentifully sweating, a repetition of the medicine, in a less quantity will seldom fail to answer our expectations ; but great judgment is required in adapting the quantity first given to the strength of the patient and other circumstances. We are not to expect that a disease which from the first formation carries so evident marks of danger, should instantly cease, even though a great part of the cause be removed.

Frequent doses of the saline draughts ought also to be given, which not only promote the evacuation by the intestines, but likewise increase the salutary discharges of urine and perspiration. These medicines are particularly serviceable in subduing the remains of the fever, after its violence has been broken by the more efficacious remedies abovementioned, but when they are used even in the decline of the disease, gentle laxatives of rhubarb and magnesia, as advised by Dr. Denman, ought to be frequently interposed, since, as he justly observes, without stools we can do little service.

Notwithstanding the discharge by the intestines appears to have the most salutary effect in
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this disease, yet when the stomach has not been properly unloaded of offensive matter, though a great nausea and sickness had indicated the expediency of such an evacuation at the beginning of the fever, the continuance of the looseness is sometimes so long protracted, as in the end to prove fatal. In this alarming state of the disease, when the stools are very frequent, and involuntary, and all appearances threaten danger, Dr. Denman says that a clyster of chicken-water injected every one, two, or three hours, or as often as possible without fatiguing the patient too much, with the following draught taken every six hours, has produced better effects than could be expected.

℞ Pulv. rad. ipecacuan. gr. i.
 Confect. Damocrat. ℥i.
 Aq. alexeter. simp. vel
 Cinnamom. simp. ℥iss. M. f. Haustua.

While these medicines are using, we should endeavour to mitigate the pains of the belly by relaxing applications. During the course of the disease the patient ought to drink freely of diluting liquors, and abstain from every thing of a heating quality, unless great faintness should indicate the use of a small quantity of some cordial medicine.

Such is the practice recommended in this disease by Dr. Denman. I shall now take a cursory view of the sentiments of succeeding writers on this subject.

According to Dr. Hulme, the proximate cause of the puerperal fever is an inflammation of the intestines and *omentum*; for the confirmation of which opinion he appeals to dissections. He supposes the chief predisponent cause of the disease to be the pressure of the gravid uterus against the parts abovementioned. The *omentum*, says he, in the latter stage of pregnancy, must either be flat, which is its natural situation, or be rumpled or carried up by the gravid uterus in folds or doublings. When the latter is the case, which, he observes, is probably not seldom, the danger of a strangulated circulation will be greater.

Mr. White, who has also written on this disease, judiciously remarks, that were Dr. Hulme's hypothesis well founded, the disorder ought rather to take place before delivery, and be immediately removed at that period. That it would likewise most generally happen to women at their first labour, when the abdominal muscles are less yielding, and the pains more violent; the contrary of which is most frequently experienced to be the case.

It

It also deserves to be remarked, that upon Dr. Hulme's supposition, we cannot account for the disease being more common and fatal in large towns and in hospitals, than in the country and private practice, while other inflammatory disorders are more endemic among those who live in the latter than the former situation. Even admitting the friction of the intestines and *cementum* against the uterus to be as violent as Dr. Hulme supposes, is it not highly improbable, that any inflammation could be occasioned by the pressure of such soft substances upon each other? Or, were this effect really produced, ought not the puerperal fever to be more common and fatal after the most laborious deliveries? But this observation is not supported by experience.

Dr. Hulme, in favour of his own hypothesis, alledges that it gives a satisfactory answer to the question, "Why all lying in women have been, and ever will be subject to this disease?" In this proposition, however, the Doctor supposes such an universality of the disease as is not confirmed by observation. It is affirmed upon undoubted authority, that in many parts of Britain the puerperal fever is hardly known; whereas, were it really produced by the causes he assigns, it would be equally general and unavoidable.

But

But how peculiar soever this author's sentiments are in respect of the proximate cause of the disease, they have not led him to any method of cure different from the established practice. On this subject Dr. Hulme divides his observations into two parts, comprehending under the former the more simple method of treatment, and under the latter the more complex. He sets out with remarking, that the patient being generally costive at the beginning of the disease, an emollient opening clyster will often give immediate relief; but if this should not prove effectual, recourse must be had to cathartics. Those which he found answer his purpose best, were the *sal catharticus amarus*, the *oleum ricini*, emetic tartar, and antimonial wine. When the bowels have been sufficiently cleared and the pain abates, he advises encouraging a gentle diaphoresis by medicines which neither bind the body, nor are heating, such as small doses of ipecacuan, emetic tartar, and antimonial wine, combined with an opiate in a moderate dose, and given once or twice in the course of twenty-four hours; administering the saline draughts in the intermediate spaces. If preceding or during this course a sickness of the stomach or vomiting attend, he advises assisting the efforts of nature, by drinking plentifully of camomile tea, warm water,

ter, or any other diluting liquor. He concludes with recommending a cooling regimen, rest of body, and tranquility of mind ; prohibiting all kinds of bandage upon the abdomen, and enjoining particular attention to the state of the bowels, which ought to be kept gently open for some time, even after the disorder seems to be gone off, till the patient be quite out of danger.

So much for the single treatment : we now proceed to the second part, where he describes the method of practice when the disease is in its more irregular and complicated state.

When a diarrhoea accompanies the disease, he observes that it ought by no means to be checked, but supported, by ordering the patient to drink plentifully of mild aperient liquors. If the pain of the hypogastric region be attended with stitches in the sides, or over the pit of the stomach, and a pulse that resists the finger pretty strongly, he remarks that bleeding would then be highly necessary : declaring however his opinion, that in the puerperal fever, bleeding is to be considered only as a secondary means of relief, though the first in point of time : that it ought to be advised with great caution ; and that the greatest dependence is always to be placed upon evacuations by stool.

Mr. White, abovementioned, imputes the puerperal fever to a putrescent disposition of the

humours, contracted during pregnancy, and fermented by the hot regimen commonly used by women in child-bed. In conformity to this opinion, the chief means which he recommends for preventing the disease is a cool regimen, and free circulation of air, which he evinces to be of the greatest importance. In respect of bleeding, he informs us, that upon the strictest enquiry, he cannot find that those who have bled the most copiously have had the greatest success, either in private or hospital practice. He even seems to question the propriety of this evacuation in any case; but approves of emetics, cathartics, and clysters, for cleansing the *primæ viæ*; and likewise of such medicines and diet as will correct the putrid humours: adding, that an upright posture, and free ventilation are at all times useful, and absolutely necessary, both for the prevention and cure of the disease.

The next writer that treats of the child-bed fever is Dr. Leake, who made observations on this disease in the interval from April 1768 to the autumn of the year 1770; but chiefly from December 1769 to May 1770; during which period the child-bed fever prevailed much about London.

Dr. Leake tells us that this fever generally commenced the evening of the second, or morn-

ing of the third day after delivery, with a rigor, or shivering fit. Sometimes it invaded soon after delivery, and at other times, though rarely, it has seized so late as the fifth or sixth day. Now and then it seemed to be occasioned by catching cold, or by errors in diet, but oftener by anxiety of mind. Sometimes the thirst was great, though the tongue had, in general, a better appearance at the beginning than is common in other fevers. It was seldom ever black or very foul, but, as the disease advanced, became white and dry, with an increase of thirst, and at last was of a brownish colour towards the root, where it was slightly covered with an inspissated mucus. The loss of strength was so great and sudden, that few of the patients could turn in bed without assistance, even so early as the first or second day after the attack. The lochia, from first to last, were not obstructed, nor deficient in quantity; neither did the quality of this discharge seem to be in the least altered from its natural state; a presumption, says the author, that the uterus was not at all affected. Of this he was convinced by making a considerable pressure above the pubes with the hand, which did not occasion pain; but when the same degree of pressure was applied higher, between the stomach and umbilical region, it became almost intolerable. A perfect crisis sel-

dom ever happened in this fever, which he imputes to the great oppression of the vital powers, whereby they were rendered unable to produce such an event. When the disease proved mortal, the patient generally died on the tenth or eleventh day from the first attack. In those who died of the fever, the *omentum* was found suppurated; an inflammation of which part, or of the intestines, Dr. Leake concludes to be the proximate cause of the disease.

In consequence of this idea of the cause of the disease, Dr. Leake affirms that venesection is the only remedy which can give the patient a chance for life. But, though it is the principal resource to be depended upon at the beginning of the fever, he observes that it will seldom prove of service after the second or third day, and, if directed yet later, will only weaken and exhaust the patient; when matter having begun to form in the *omentum*, the progress of the disease can no longer be prevented by that evacuation. At this period the blood begins to be tainted by the absorption of the purulent fluid; and the fever, from being inflammatory, is changed into a putrid nature.

After bleeding in such a quantity as the symptoms require, he advises that the corrupted bile be evacuated and corrected as soon as possible;

ble; that the diarrhœa, when excessive, be restrained by emollient anodyne clysters, and gentle sudorifics, or even by opiates and mild astringents, when the patient's strength begins to sink under the discharge; and, lastly, that where the signs of the putrefaction or intermission take place, antiseptics and the Peruvian bark may be administered.

The great uniformity of the symptoms in all Dr. Leake's patients might authorize an opinion, that the fever which he describes was in a great measure a disease *sui generis*, and depended much upon the constitution of the air, preceding and during the period in which the fever prevailed.

Dr. Kirkland has also made judicious observations on this subject. He rejects the opinion that the puerperal fever is a disease *sui generis*, and arises always from the same cause. The particular situation of child-bed women, he acknowledges, occasions a similarity in the appearance of all the febrile symptoms; but he affirms that the same kind of fever may be produced by various causes: for instance, by an inflammation of the uterus, or abdomen, by putrid blood, or other matter, and putrid miasms. The symptoms, he observes, will vary according to the time of seizure. If the fever happens in three or four days after delivery, all the symptoms

usual to the situation of the patient will make their appearance ; but if it does not invade till the milk has been secreted, and the lochial discharge is nearly finished, the symptoms, if the breasts are properly drawn, will, for the most part, be those only which are common to that kind of disorder by which the fever has been produced.

With respect to the cure of puerperal fevers, Dr. Kirkland advises the antiphlogistic method when they arise from inflammation ; but when this method fails of success, and a diarrhœa supervenes, the disease has changed its nature, having become more or less putrid, and requires a very different treatment.

His observations relative to the management of the diarrhœa are extremely judicious. No one, says he, would purge and bleed, to cure the colliquative fever, arising from the absorption of matter in large wounds ; and yet the only difference is, that in the puerperal fever, the matter absorbed from the uterus, &c. acts with more violence ; because the blood is commonly thinner, and the habit in a more irritable state. We see, continues he, that absorbed matter purges as effectually as if any purging medicine had been given by the mouth ; and may we not therefore do harm by additional purging, when there has been a large evacuation, especially as
purges,

purges, in this case, are incapable of entirely removing the *fomes morbi*?

He considers the Peruvian bark as the principal remedy, as soon as the pulse sinks, the heat is lessened, and the stomach will bear it. If the bark increases the diarrhoea beyond moderation, he joins with it small doses of laudanum; but if the diarrhoea were entirely to stop without the fever going off, in place of laudanum he advises a proper quantity of rhubarb. Should the diarrhoea, notwithstanding the use of the medicines proposed, become so violent as to endanger the patient, he joins Mr. White in recommending the columbo root, which is a warm cordial, and removes the irritability of the stomach and intestines more powerfully than any other bitter he knows.

Of this disease also, as it appears in Derbyshire and some of the adjacent provinces, an account has been published by Dr. Butter. Concerning the causes and nature of the disease, he observes, that pregnancy seems to add much to the natural sensibility of the female constitution; because at this period women are often subject to a train of nervous symptoms, which never molest them at other times. During gestation, likewise, the appetite is for the most part keen, while the digestion appears to be im-

paired ; and this weakness is increased not only by improper food, of which the woman is frequently desirous, but also by the inactivity attending her situation. To these circumstances, it is added, that the intestinal passage being interrupted by the uterine pressure, costiveness generally prevails. From the several observations here enumerated, Dr. Butter concludes that the proximate cause of the puerperal fever is a spasmodic affection of the first passages, with a morbid accumulation in their cavity ; and upon this supposition he endeavours to account for the various symptoms of the disease.

In treating of the method of cure, the author lays down two indications ; the former of which is to promote two, three, or four stools daily, in a manner suited to the strength of the patient, till such time as they resume a natural appearance. The second indication is to relieve all uneasy symptoms, such as heat, thirst, head-ach, &c.

With respect to the opinion entertained by Dr. Butter, of the cause of the puerperal fever, it nearly coincides with that of Mr. White. But however plausible it may appear, we are not entirely satisfied that a disease attended with so peculiar symptoms as the puerperal fever, can depend principally upon an irritability, which is not
restricted

restricted either to the pregnant or puerperal state.

It deserves to be remarked, that though the several writers who treat of this subject, have conducted their method of cure conformably to their particular idea of the cause of the disease, respecting which their sentiments are very different, they seem to have been equally successful in the treatment of their patients. Indeed the several writers differ less from each other in their method of cure, than might be expected where so great an opposition of theoretical sentiments prevails. For after endeavouring to establish indications correspondent to their particular systems, those who contend for the expediency of promoting the intestinal discharge, dissuade not from a recourse to phlebotomy when the disease is attended with inflammatory symptoms; while, on the other hand, the most strenuous advocates for bleeding admit the utility of the former evacuation. It appears, therefore, that a due regulation of the alvine discharge is necessary through the whole course of the fever, but venesection only sometimes.

Of the RHEUMATISM.

THIS disease is distinguished into the acute and chronic rheumatism, the former of which is accompanied with a fever. In the more acute rheumatisms, not only some of the joints are considerably swelled and inflamed, but all of them are so affected, that the patient cannot in the least move himself, or be moved by others, without some excruciating pain. In treating the rheumatism with fever, which so frequently occurs in an army, Sir John Pringle informs us, that he followed the practice of Ballonius, Riverrius, and Sydenham, with regard to repeated bleedings, which were his chief remedy. It is to be remembered, he observes, that his patients were men in the prime of life, and of that class that is little subject to arthritic pains, which may so readily be confounded with the rheumatic. But he adds, that in his private practice since that time, among people whose manner of living disposed them more to attacks of the gout than to a true rheumatism, in every ambiguous case, if there was fever, he has bled freely, not only once, but a second and a third time, if the blood was fizy, and the patient not too weak, but relieved by the evacuation. In
acute

acute rheumatisms, says Sir John, frequent bleedings weaken the body less, perhaps, than in any other distemper, as Riverius justly remarks; and I believe we may safely subjoin, that in young people, when the gout is disguised under a rheumatic form, we cannot much err if we treat the case as purely rheumatic.

If the patients were not loose, Sir John Pringle advises the almost daily use of clysters, or of some mild laxative, to cool, and to prevent costiveness. They were likewise during the whole time kept on the lowest diet to which they could be persuaded to submit. Their food was panada, water-gruel, and the like: their drink was barley-water; or, when milk could be procured, a whey, made with vinegar instead of runnet, which they drank with pleasure.

In cases where either the lungs were immediately affected, or, at any rate, when the patient complained of a difficulty in breathing, or of a head-ach, not relieved by bleeding, Sir John Pringle ordered a blister between the shoulders, which seldom failed of removing or lessening those symptoms. It has been observed, that blistering, in general, is serviceable in those universal rheumatisms; and this judicious writer testifies, that when the pain is confined to one part, it is among the most efficacious applications. But in the

acute

acute rheumatisms, attended with swellings of the joints, he preferred leeches to all other local remedies, applying four or more upon that part of the articulation where the inflammation and tumour were greatest. After the leeches fell off, he let the blood ooze till it stopped of itself. The relief thus obtained being considerable, and the loss of blood but small, he made frequent repetitions of the application. He has sometimes since, in his private practice, successfully ordered twelve leeches at once for one patient, dividing them between two or more joints affected, renewing the application three days successively, and afterwards using a smaller number, at longer intervals, as there was occasion. By this means he generally gave some immediate ease, and shortened the distemper, as well as saved the loss of a much greater quantity of blood by the arm.

Sir John informs us, that the general bleedings, and those local evacuations of blood, with occasional blisters, the low diet, and the mildest laxatives, were for the most part sufficient to conquer, or, at least, considerably to abate the acute rheumatism of the army. He commonly added the diaphoretic powders mentioned in the cure of inflammatory fevers, but without having any confidence in them, and at no rate with a view to promote any sensible discharge by the skin. For
though

though in his first practice he attempted, by means of the *spiritus Mindereri*, and other medicines of that nature, to force a sweat, yet he was afterwards convinced that this was not the proper manner of treating a rheumatism with fever. Indeed, whenever the fever was lessened by taking away much blood, and especially when the men were brought low by such evacuations, he gave them thrice a day about forty drops of the spirit of hartshorn, as a cordial, and not as a sudorific. Observing that this medicine not only sufficiently answered that intention, but even abated the pains, he continued the use of it daily as long as they remained, whether the patients were confined to their beds, or walked about; so that the volatile alkali, recommended by Sydenham in chronic cases only, was likewise generally used in the acute rheumatism as soon as the fever began to give way.

In this manner Sir John Pringle treated the acute rheumatism of the army, and for the most part with success. But the chronic rheumatism he found to be one of the most obstinate diseases of the hospital, being either the remains of a rheumatic fever ill cured, or pains that had at first been occasioned by colds, and were riveted through want of timely care. In this likewise he followed the practice of Sydenham in regard to bleed-

bleeding in it. Whenever he found the blood inflamed, he ordered the patient to lose, once in eight or ten days, about eight ounces, as long as it continued fizy, or his complaints remained. Between whiles he opened the body with a draught of gum guaiacum dissolved, and on the intermediate days gave the spirit of hartshorn. At that time he, with others, considered the guaiacum as a specific purge in those slow rheumatisms; and from later experience he has had so much reason to be confirmed in his favourable opinion of its qualities, that in such cases, after bleeding with the lancet, or with leeches if the parts be swelled and inflamed, he usually prescribes a draught of half a dram of that substance, dissolved in the yolk of an egg, two ounces of water, and some sugar, to be taken every night at bed-time, in order to procure two or three motions next day. In this course he proceeds till either the pains cease, or till the patient finds himself too much weakened by these evacuations to continue them longer. In either case, and especially if the water breaks, or the patient complains of night-sweats, he endeavours to finish the cure with the bark, which he gives to a drachm and a half, in substance, in the day. During the use both of the guaiacum and the bark, he orders the spirit of hartshorn, as above directed; and

and whenever any joint is attacked with swelling and pain, he has recourse to the application of leeches, which have little less effect in the chronic rheumatism, than in that which is attended with fever.

In the acute rheumatism, Sir John Pringle never used any external application with success, except cupping, leeches, and blisters. And in pains without fever, though he has known some relief, at times, procured by Bates's anodyne balsam, embrocations of volatile alkaline spirits by themselves, or in the *linimentum volatile*, to which one fourth of oil of turpentine was added, yet at other times he has known all these rather aggravate the symptoms. Flannel alone, he says, is perhaps the most generally useful application; yet he has known some rheumatic patients complain of that also, and obliged to lay it aside, as too heating.

Sydenham having condemned all opiates in the rheumatism, as fixing the disease, Sir John Pringle abstained from the use of them during his practice in the army. But since that time he has altered his method in this respect, and in sharp nocturnal pains preventing all rest, he has sometimes successfully given from twenty to twenty-five drops of the *tinctura Thebaica*, joined to thirty drops of the *vinum antimoniale*; but in
other

other cases, he has imagined, with Sydenham, that it was better to omit all such medicines.

In the year 1774, Dr. Dawson published some cases in the acute rheumatism and the gout; in which he gave an account of several cures performed, or great benefit received from the use of the tinctur. guaic. vol. taken in the quantity of half an ounce, made into a draught with common water. This method of giving the tincture of guaiacum in so large a dose was introduced, as the author informs us, by Dr. Munkley, in Guy's Hospital. From the various cases which Dr. Dawson relates, the efficacy of the medicine appears in a very favourable light; but he candidly refrains from determining how early in the disease it may be most successfully administered.

In the chronic rheumatism, electricity also has been found, of late years, to be of considerable advantage.

Of SCROFULOUS and GLANDULAR SWELLINGS.

SCROFULOUS complaints being supposed to proceed from a visciditv of the fluids, the cure of them has generally been attempted by medicines of the attenuating kind, as antimonials, mercurials, saline preparations, &c. But it is questioned, whether the digestive powers of the stomach do not deprive even the most pungent salts of great part of their activity. That the effects of the acid and the alkaline salts depend much on the casual disposition of the juices in the stomach, and first passages, no doubt can be entertained; nor do the neutral salts appear to be entirely exempt from the same influence. There seems therefore but little probability of curing scrofulous disorders by means of remedies which act on the fluids alone. Salts, indeed, as stimulants, may exert an influence on the solids as well as fluids; but there is reason for thinking that their operation on the former extends no farther than the first passages.

It is observed, that the aspect, habit, and age of scrofulous persons, with the nature of those tumours in respect to their formation, progress, and issue, seem to indicate a general laxity of the solids, as well as great visciditv of the fluids,

especially those contained in some particular series of vessels.

Whether the fluids do not become viscid in consequence of a previous relaxation of the solids, or whether the latter be not superinduced by an antecedent vitiated state of the fluids, may be matter of dispute. It is certain, however, that to affect the solids is more in our power than to produce an alteration in the fluids; and hence arises the propriety of endeavouring, in the cure of this distemper, to correct the faults of the vascular system, without the right condition of which the fluids must be perpetually depraved.

It is unquestionable that all internal remedies are exposed to the efficacy of the digestive powers. Most of the saline medicines, as has been already observed, are liable to great alterations in the stomach. Alkaline and acid salts may become neutral and saponaceous, while neutral salts, by being diluted, may be disposed to run off by the emunctories.

In the cure of all chronic complaints, however distant their seat may be from the stomach, it is of great importance to consider the present state of this organ, and to remove every obstruction to its performing the office of digestion with expedition and care; on which the preservation of health and strength so much depend. In

fact, the greater part of those distempers appears to have been removed, rather in consequence of the medicines prescribed having exerted an influence on the stomach, and thereby strengthened digestion, than by any immediate operation on the particular seat of the disease.

On this kind of reasoning, joined to the remark that persons subject to scrofulous disorders are of a lax constitution, the Peruvian bark has been of late years administered in these complaints with great success. Several instances confirming the utility of this practice occur in the Medical Observations, from which the two following cases are extracted.

The lady of an officer of distinction in America, some years ago, was affected with several clusters of scrofulous tumours in the neck, for the cure of which she underwent many tedious and severe courses of medicine, without the least advantage. In February 1759, she came to Philadelphia to consult Dr. Bond, at which time she was so much reduced by a loss of appetite, and slow fevers, that she could scarcely walk across the chamber. Her neck and throat were full of indurated tumours, many of which were at least two inches in diameter. Several of them had undergone a partial suppuration, and discharged an ichorous matter from fistulous ulcers. The

tumours were so numerous, large, and hard, and her constitution in general so shattered, that the Doctor could not flatter himself with any reasonable prospect of success from medicine. He ordered however a discutient fomentation to the affected parts, covered the swellings with *emplast. e sapon.* and directed half a drachm of the Peruvian bark to be taken thrice a day, in consequence of the efficacy ascribed to this medicine, in scrofulous complaints, by Dr. Fothergill. He had the unexpected pleasure of seeing the patient much relieved in a month. Her appetite was restored; her fever cured; and the tumours diminished at least one third. She continued the same course, under his inspection, between two and three months longer; and being then almost perfectly free from her complaints, returned to the country, carrying with her one hundred doses of the bark, by which her health and habit of body were soon entirely re-established.

The other case was that of a young girl, who had a great number of scrofulous tumours, which had gradually increased for many years. The physician above-mentioned first directed a slight salivation to be kept up for several weeks, which she bore well; but by this course the tumours were rather increased than diminished. He then ordered the use of the bark in powder, with

with a few grains of steel. After she had taken one hundred and fifty doses, the tumours were almost dissolved. A misfortune in the family soon after, caused the girl to be neglected some months, during which time the swellings increased to near their former size, but yielded again to the bark and steel.

In the ophthalmia strumosa the bark has also been given with extraordinary advantage; and we meet with an instance of its having cured the gutta rosacea, in the face; a complaint which is often difficult to remove, and extremely disagreeable to the fair sex.

From the various cases related of tumified glands, it appears, that when the habit of body is relaxed and the circulation weak, either from constitution or accident, the bark is a most efficacious medicine, and that it acts as a resolvent and discutient. It will not however succeed in all cases; but there are few in which a trial can be attended with much detriment. Dr. Fothergill observes, that he has never known it avail much where the bones are affected, nor where the scrofulous tumour is so situated, as to be accompanied with much pain, as in the joints, or under the membranous coverings of the muscles; for when the disease attacks those parts, the periosteum seldom escapes without some injury, by

which the bone will of course be likewise affected. Here the bark is of no effect: instead of lessening, it rather increases the fever that accompanies those circumstances; and, if it does not really aggravate the complaint, it seems at least to accelerate the progress of the disease.

Various are the modes in which the bark is administered; but Dr. Fothergill makes use of a decoction like the following, as a form in which a sufficient quantity may be given, without exciting disgust.

R Pulv. cort. Peruv. ℥i. coque in aq. puræ lib. ii. ad lib. i sub finem addendo rad. glycyrrh. incis. ℥ss. Colaturæ adde aq. nuc. moschat. ℥ii. M. capiat cochlear. ii. iii. vel iv. cum tinctur. guaica. volat. gut. x. xx. ad lx. usque, bis terve quotidie.

The powder, says he, soon becomes disagreeable to very young patients, and the extract seems not so much to be depended upon, as may have been imagined. In making the extract, it is exposed to so much heat, as must have some effect upon its virtues, perhaps to their detriment. In administering it, likewise, if great care be not taken to mix it intimately with a proper vehicle, or some very soluble substance, in weak bowels it very often purges, and thereby not only disappoints the physician, but injures the patient.

A small

A small quantity of the *cortex Winteranus* added gives the medicine a grateful warmth, and renders a quantity of compound water less necessary. It may also be observed, that a little liquorice, a few raisins, gum arabic, or the like, added to the decoction before it is taken from the fire, by making the liquor viscid, enables it to suspend more of the fine particles of the bark; by which process the medicine is not only improved in efficacy, but, at the same time, rendered less disagreeable.

In indolent swellings of the glands from viscid humours, sea-water also has been strongly recommended by Dr. Ruffel.

Of the HYDROCEPHALUS INTERNUS.

THIS disease has been accurately treated within these few years by several eminent physicians, particularly the late ingenious Dr. Whytt, Dr. Fothergill, and Dr. Watson; who concur in opinion with respect to the seat of the complaint, the most of its symptoms, and its general fatality. Out of twenty patients that had fallen under Dr. Whytt's observation, he candidly owns that he had been so fortunate as

to cure one who laboured under the characteristic symptoms of the hydrocephalus; and he suspects that those who imagine they have been more successful, had mistaken another distemper for this. It is by all supposed to consist in a dropsy of the ventricles of the brain; and this opinion is fully established by dissections. It is observed to happen more commonly to healthy, active, lively children, than to those of a different disposition.

Dr. Whytt supposes that the commencement of this disease is obscure; that it is generally some months in forming; and that, after some obvious urgent symptoms render assistance necessary, it continues some weeks before its fatal termination. This, in general, differs from what has hitherto been observed by Dr. Fothergill; the latter informing us, that he has seen children, who, from all appearance, were healthy and active, seized with this distemper, and carried off in about fourteen days. He has seldom been able to trace the commencement of it above three weeks.

Though the hydrocephalus be most incident to children, it has been sometimes observed in adults; as appears from a case related by Dr. Huck, and from some others.

Those

Those who are seized with this distemper usually complain first of a pain in some part below the head ; most commonly about the nape of the neck and shoulders, often in the legs, and sometimes, but more rarely, in the arms. The pain is not uniformly acute, nor always fixed to one place ; and sometimes does not affect the limbs. In the latter case, the head and stomach have been found to be most disordered ; so that when the pain occupied the limbs, the sickness or head-ach was less considerable ; and when the head became the seat of the complaint, the pain in the limbs was seldom or never mentioned. Some had very violent sicknesses and violent head-achs alternately. From being perfectly well and sportive, some were in a few hours seized with those pains in the limbs, or with sickness, or head-ach, in a slight degree, commonly after dinner ; but some were observed to droop a few days before they complained of any local indisposition. In this manner they continued three, four, or five days, more or less, as the children were healthy and vigorous. They then commonly complain of an acute pain in the head deep seated, and extending across the forehead from temple to temple ; of which, and a sickness, they alternately complain in short and affecting exclamations ; dosing a little in the intervals, breathing irregularly

larly and sighing much while awake. Sometimes their sighs, for the space of a few minutes, are incessant.

As the disease advances, the pulse becomes slower, and irregular, the strokes being made both with unequal force and in unequal times; till within a day or two of the fatal termination of the disorder, when it becomes exceeding quick; the breathing being at the same time deep, irregular, and laborious. After the first access, which is often attended with feverish heats, especially towards evening, the heat of the body is for the most part temperate, till at last it keeps pace with the increasing quickness of the pulse. The head and præcordia are always hot from the first attack. The sleeps are short and disturbed, sometimes interrupted by watchfulness; besides which there are startings, the pupils of the eyes are much dilated, and during sleep great part of the whites of them is exposed to view. The patients are averse to light, unwilling to be disturbed for any purpose, and can bear no posture but that of lying horizontally. One or both hands are most commonly about their heads. The urine and stools come away insensibly. At length the eyelids become paralytic, great heat accompanied with sweat, overspreads the whole body, respiration is rendered totally suspirious, the pulse
increases

increases in its trembling undulations beyond the possibility of counting, till the vital motions entirely cease; and sometimes a spasm concludes the scene.

Many of the symptoms above enumerated are so common to worm-cases, teething, and other irritating causes, that it is difficult to fix upon any which particularly characterize this disease. The most peculiar seem to be the pains in the limbs, with sickness and incessant head-ach, which, though frequent in other diseases of children, are neither so uniformly nor so constantly attendant as in this. Another circumstance observed to be familiar, if not peculiar to this distemper, is, that the patients are not only costive, but it is likewise with the greatest difficulty that stools can be procured. These are generally of a very dark greenish colour, with an oiliness or a glassy bile, rather than the slime which accompanies worms; and they are, for the most part, extremely offensive. No positive conclusion can be drawn from the appearance of the urine, being various, in different subjects, both in its colour and contents, according to the quantity of liquor they drink, and the time between the discharges of urine. From their unwillingness to be moved, they often retain their water twelve or fifteen hours, and sometimes longer. In complaints arising from
worms,

worms and in dentition, spasms are more frequent than in this disorder. Children subject to fits are sometimes seized with them a few days before they die. Sometimes they continue twenty-four hours incessantly, and till they expire.

When the hydrocephalus internus proceeds from the rupture of a lymphatic vessel in the brain, which some suppose to be the proximate cause of the disease, it cannot admit of a cure; but as its symptoms are so similar to those excited by worms, in many cases, and it may therefore often not be an idiopathic, but a symptomatic disorder, the most effectual means of alleviating the complaint will be to make use of anthelmintic medicines, and such other remedies as may free the bowels from any irritating cause. For this purpose, three or four grains of calomel, or more, according to the age and habit of body of the patient, with rhubarb, and the *pulv. e scam. comp.* may be given. If the stomach appears to be loaded, one fourth, or one half of a grain of tartar emetic may be joined with it, and the stomach washed with any suitable liquor.

Besides these remedies, anthelmintics may be administered in clysters, which may consist of aloes boiled in milk; or of a decoction of sem. fanton. with thirty or forty drops of ol. terebinth. Small doses of anodynes may also be given occasionally,

sionally. All heating medicines, however, seem to increase the disease; as does also much warmth in the room.

If the disorder actually proceeds from worms, it is usually soon abated by this course, and in the end effectually cured; but if the symptoms still continue, there is room for an unfavourable prognostic. Even in this case, however, we ought not to abandon the patient to the probable issue of the disease, but to use every means in our power for mitigating the most urgent symptoms. With this view it may be proper to have recourse to blisters, sinapisms, and embrocations; the less heating antispasmodics may also be internally used, and the bowels ought always to be kept as much as possible free from impurities.

Of the HERNICRANIA.

THIS disorder consists in a pain of one side of the face and head, and frequently affects the eyes with extreme tenderness and inflammation. During the paroxysms the pain is for the most part exceedingly violent, but has generally periodical intermissions. Dr. Grant informs us, that when he began the cure of this disease by bleed,

bleeding, the evacuation frequently gave relief in spring, but never in autumn. A vomit always moderated the succeeding fit, but a purge increased it, unless an anodyne was given after. When these evacuations had been premised, he has sometimes proved successful in harvest by giving an infusion of camomile flowers, with elixir of vitriol; but never in spring, although he has tried it often. When in the former of those seasons the camomile and vitriol have failed, he has for the most part succeeded with the bark; but this also has often failed in the spring, though he has given it in a large quantity between the fits, and persisted in it a considerable time. Leeches on the temples, and blisters behind the ears, frequently give relief, but never cure the disease. Strong and fermented liquors always exasperate the pain. Roots and greens do no harm; but the lean of meat is the best diet. The following electary has succeeded in a great number of cases; care being taken to vary the ingredients, or the proportion of them, according to the season of the year, the age, habit, and other circumstances of the sick.

R Rad. valerianæ sylvest. ℥i. cort. Peruvian. opt. ʒss.
 Theriacæ ʒii. salis absynth. ʒi. rhei electi ʒi. syr.
 croci q. s. f. electarium.

Of the INFLAMMATION of the EYES.

WHEN an ophthalmia, or inflammation of the eye, is considerable, bleeding becomes necessary, and that in proportion to the violence of the complaint. Sometimes, however, the disorder may be cured, by making a derivation from the affected part, without draining the whole body. For this purpose, blisters are usefully applied behind the ears, especially if they are continued for two or three days, and if the sores are afterwards kept running. This part of the cure is sufficiently known. But what Sir John Pringle has observed to be more efficacious, though less generally practised, is bleeding by leeches, when two or more are applied to the lower part of the orbit, or near the external angle of the eye, and the wounds allowed to ooze till they stop of themselves. In all greater inflammations of the eyes, after bleeding in the arm or jugular, he has used this method, and repeated it more than once, if required. The practice is no less proper in an inflammation of those organs from a hurt or blow: only in great fluxions upon the eyes, some blood is to be first taken from the arm, and immediately after, a revulsion is to be made by a brisk purge.

Slighter

Slighter inflammations from the dust, or the sun, may be removed by fomenting with warm milk and water, adding a small portion of brandy; and by anointing the borders of the eye-lids with the *unguentum tutiæ*, or the like, at night, especially when those parts are excoriated and sore. But in bad cases, after the inflammation had yielded a little to evacuations, the coagulum aluminosum of the London Dispensatory, spread on lint, and applied at bedtime, has been found the best external remedy. Before the use of the latter, the solution of white vitriol is prescribed with advantage; and in violent pains it is of service to foment frequently with a decoction of white poppy heads.

Of the INFLAMMATION of the BRAIN.

AN original phrenitis, or inflammation of the brain, requires immediate, large, and repeated bleedings; and the relief is thought to be the more certain if the blood be taken from the jugular. Sir John Pringle informs us, that he never advised cutting the temporal artery in this disorder, finding so much relief from
 apply-

applying three or four leeches, and sometimes six, to each temple, after bleeding in the arm. The rest of the cure consisted in the medicines common to all inflammatory fevers.

The symptomatic phrenitis was also treated by opening a vein, if the pulse could bear it ; but if that could not be done on account of lowness, the cure was attempted by leeches and blisters. The common internal medicine was the diaphoretic powder, consisting of a scruple of *pulvis contrayervæ compositus*, ten grains of nitre, and three grains of camphor, given four times a day, in a little barley-water.

The same judicious writer observes, that a phrenitis is often brought on, or increased, in the hospitals of an army, by the want of due perspiration, and of warmth in the extremities. He therefore advises, that as soon as a soldier is brought into the hospital with feverish symptoms, his hands and feet should be washed with warm vinegar and water ; and he also recommends for the hospitals, what he has sometimes, since, in a phrenitis, successfully used in his private practice, viz. a fomentation to the feet and lower part of the legs, with double flannels wrung out of water (with a seventh part of vinegar) made agreeably warm, and often repeated, for an hour or two at a time.

Of the INFLAMMATION of the THROAT.

THE quinsy, or inflammation of the throat, from its tendency to bring on a suffocation, requires speedy and large bleeding, which ought to be repeated next day, if the disease be not diminished. In all cases a lenient purge is proper, and clysters, to keep the belly open, should afterwards be daily administered. In great pain or swelling of the tonsils, a large blister ought to be applied to the back the night after the first bleeding. In bad cases, Sir John Pringle has laid one across the throat. At other times, when the inflammation has been obstinate, he has directed the veins called the *raninæ*, under the tongue to be opened, and as much blood taken from them as would come; from both which means he has seen good effects. Another topical remedy which he sometimes found useful, was a piece of thick flannel, moistened with two parts of common sweet oil, and one of spirit of hartshorn, (or in a larger proportion, if the skin will bear it) applied to the throat, and renewed once in four or five hours. By this means the neck, and sometimes the whole body, is put into a sweat, which, after bleeding, either extinguishes or lessens the inflammation.

Instead

Instead of the diaphoretic powders, mentioned in the general treatment of inflammatory fevers, as they are swallowed with difficulty, Sir John Pringle, in his later practice, ordered a mixture with two or three ounces of the *emulsio camphorata Pharmacop. Edinburg.* thrice the quantity of spring water, and two scruples of nitre; of which the patient took three spoonfuls every three hours; and if the latter was unwilling to use a laxative clyster daily, the nitre was left out, and in room of it were substituted two drachms of the *sal catharticus amarus*, or the like, to keep the body open.

In the inflammatory quinsy, Sir John Pringle never touched the inflamed parts with a mineral acid, as Sydenham directs; but he observed little benefit from any gargle, except when a suppuration was forming; in which case he ordered the patient to use a mixture of milk and water, in which figs had been boiled, and to keep a bit of one of the figs as near as he could to the parts affected.

Dr. Withering informs us, that in this disease he has used emetics for many years past with the greatest success. If the vomit is given, he says, in the first or second day of the disorder, and the patient keeps in bed a few hours afterwards, drinks gruel freely, and takes the tartar emetic

small doses to promote perspiration, he rises perfectly cured. If the inflammation has proceeded to such a length as entirely to prevent deglutition, a little tartar emetic, it is added, repeatedly put back in the mouth, and suffered to dissolve there, will in time excite vomiting. We are told, that after the first discharge from the stomach, the patient is able to swallow a large draught of gruel, and thus to continue the operation. The most urgent symptoms are instantaneously relieved, and in a day or two, sometimes with, and sometimes without the emetic, he is quite well. If the disorder has continued so long that matter is already formed, vomiting promotes the rupture of the abscess, and dispels the surrounding inflammation. Dr. Withering adds, that there may be cases in which bleeding is absolutely necessary, but he has never yet seen any such. He never directed any other medicine, either internal or external, except an injected gargle, to promote the discharge of the viscid mucus.

Of the MALIGNANT, or PUTRID SORE THROAT.

THIS disease is evidently the same as the *ulcera Ægyptiaca* of Aretæus Cappadox ; the *crustosa et pestilentia tonsillarum ulcera* of Ætius Amidenus ; and the *ulcera pestifera in tonsillis*, of Paulus Ægineta. But though these, and others of the ancients, appear to have been no strangers to this disorder, the method of curing it was very imperfectly known in Britain till within these thirty years, when it was accurately investigated by Dr. Fothergill, in a particular treatise on the subject.

This disease consists in a painful red swelling of the tonsils, and mucous membrane of the fauces, attended with ulcers, which are covered by white or ash-coloured sloughs, with a putrid exanthematous fever, and with difficulty of breathing and swallowing. It is chiefly incident to persons of a relaxed habit, seizing children rather than adults, and the female sex more frequently than the male. Those also are most liable to its attack, who have been previously debilitated by other diseases.

This species of angina is accompanied with different symptoms in different persons ; but in general the patient is affected with a great degree

of languor and lassitude, a fluttering, and irregular flying pains over the body. These fore-runners of the disease are succeeded by giddiness of the head, chillness and shivering, which are soon followed by great heat. The chillness and heat succeed each other alternately for several hours, till at length the latter becomes more constant and intense, and forms a principal complaint throughout the disease. The patient also complains of soreness and stiffness, rather than pain of the throat, attended with hoarseness, and sometimes a cough; great stiffness of the neck, and violent sickness, with vomiting, or purging, if not both. Vomiting and purging, however, are most common in children, adults frequently having neither, and being even costive.

The face soon after appears red, flushed, and bloated; but sometimes it is pale and sunk, and the eyes are watery and inflamed. The disease, from the beginning is accompanied with great restlessness, anxiety, fainting, and remarkable depression of spirits. The pulse is generally quick, small, and fluttering; in some hard and small, in others soft and full; but always without that strength and firmness which accompany inflammatory diseases.

The urine at first appears crude, like whey, but as the disease advances it becomes yellower; and

and soon after the marks of recovery are perceived, it commonly grows turbid, depositing a farinaceous sediment.

Soon after the first attack, or at the same time with it, the uvula, tonsils, and maxillary glands, appear swelled and inflamed, often to such a degree as even in the very beginning to threaten strangulation. These parts with the velum pendulum palati, and the cheeks on each side the entrance into the fauces and the pharynx, are of a florid red, or crimson colour, and have a glossy appearance. They are afterwards variegated with several white spots, which soon increase to such a size as to cover one or both the tonsils. The spots are of an irregular figure, often surrounded with a florid red.

Though the heat be great, the patient complains less of thirst in this than in almost any other acute disease. The tongue is commonly moist, and clean at the top; but furred with a yellowish brown coat at the root. Sometimes, however, it appears of a red colour, like raw flesh.

The breath has a nauseous, offensive smell, which at length becomes almost intolerable to the patient's self.

In some the face is much bloated and very fallow, and not only the neck greatly swelled, but the whole body œdematous to such a de-

gree, that an impression made with the finger will remain. The inside of the nostrils is inflamed and excoriated, and continually dripping a thin corrosive sanious ichor, or white putrid matter, which is so acrid as to excoriate the lips, cheeks, and hands of children labouring under the disease, and even the fingers and arms of the nurses who attend them. This virulent matter producing the same effects on the intestines as on the other parts of the body, proves the occasion of those violent gripings, dysentery, and excoriations in the anus and buttocks, which sometimes attend it. The trachea likewise is sometimes excoriated by this matter, and pieces of its internal membrane are spit up, with much blood and corrupted mucus, which has caused the patient to linger for some time, and at length die tabid.

Hæmorrhages from the nose are also very common during the whole course of this disease; and soon after its attack, the menses frequently appear, in those who are of an age to have them, though the proper period may be at a considerable distance.

During the progress of the disease all the symptoms are aggravated: the fever, restlessness and anxiety become more considerable; the difficulty

culty of swallowing greatly increases, and the head turns more giddy, painful, and heavy, with constant watchfulness, and frequently with delirium. Some lie in a stupid, almost insensible state, often starting, and muttering to themselves.

The skin becomes more hot, dry and rough, with hardly any disposition to sweat. The face, neck, breast, and hands, become of a deep erysipelatous colour, perceptibly swelled; and a number of small pimples appear on the arms, and other parts, of a fiery red colour more intense than that which surrounds them. These are generally largest and most prominent, where the redness is least deep, as on the arms, breast, and lower extremities.

The angina commonly appears before any eruption is observable, but this is not always uniformly the progress of the disease. Sometimes, in adults, the angina has been known to exist without any eruption at all; but even those cases have been accompanied with a great itching and desquamation of the skin.

The pustules are often so very small that they cannot easily be seen, but may be felt; as they give a sort of roughness to the skin, which appears swelled, inflamed, and of a crimson colour. As this colour advances, the sickness, vomiting, and purging generally abate, but not always; for an
uni-

universal scarlet eruption has appeared without the least abatement, nay even with an aggravation of some of the symptoms. It is however considered as a good sign, when a kindly eruption breaks out on the second or third day.

After the eruption has appeared, the fauces continue nearly in the same state as before, except that the white spots become more opake, which are now discovered to be sloughs, covering ulcers of the same dimensions. When the disease is mild, however, these are so superficial as only to be distinguished from the other parts by a little inequality of the surface; but at other times, the ulcers, if not carefully attended to, will eat very deep into the parts.

The parotids also swell, grow hard and painful to the touch; and when the disease is violent, a large œdematous tumour surrounds the neck, extending down to the breast, and greatly increases the danger.

The breathing then becomes more difficult, with a kind of rattling noise, as if the patient were suffocating; and the voice is hoarse and hollow, as in venereal affections of the throat and fauces.

If the eruption has not the effect of alleviating the symptoms, they are generally much increased the following night, accompanied with a deli-

delirium different from that which attends most other diseases. The patient commonly answers questions distinctly enough, but with unusual quickness, talks incoherently when alone, and is apt to affect great composure. This happens most frequently to those who sleep but little.

Others are affected in a different manner, becoming totally stupid and comatose. In this state they generally continue three or four days, with constant exacerbations at night; but more or less of a sweat breaks out in the morning; after which the patient is much easier, a great degree of faintness only remaining, of which he chiefly complains.

This disease has no regular crisis. Some grow better from the very first day of its attack; but more commonly, under proper treatment, the disease is removed on or before the seventh day. Some patients are carried off on the second or third day, by the matter falling upon the lungs, and exciting a peripneumony.

When the disease has run its course, and the patient begins to recover, the symptoms proceed in the following order. If, after a gentle easy sweat, the redness of the skin and the heat grow less, the pulse become more slow, firm, and equal, the external swelling of the neck subside, the sloughs cast off in a kindly manner, appearing
clean

clean and florid at the bottom, the ulcerations fill up, the patient be composed when awake, and sleep without confusion, the appetite for solid food return, the breathing be soft and free, some degree of vigour and quickness return to the eyes, and gentle sweats continue, with plentiful expectoration, and desquamation of the cuticle; if these favourable symptoms happen, the patient will soon recover.

But, on the other hand, if a rigor supervene, if the exanthemata suddenly disappear, or become livid or black, the pulse small and quick, the skin hot and parched, the breathing difficult, the eyes dead and glossy, the urine pale and limpid, and phrenzy or coma come on, with cold clammy sweats on the face or extremities; and especially if there should be any hiccup, or sudden liquid and involuntary stools, a fatal termination of the disorder may be prognosticated.

This species of angina is most common in autumn, and is highly contagious. The proximate cause of it is referred to a debility of the nervous power, and a dissolved state of the fluids; whence the great indication of cure is, to correct the putrescent tendency throughout the system in general, and to stop the progress of putrefaction in particular parts.

Bleeding

Bleeding was formerly esteemed a remedy of great importance in the malignant angina, till the danger of its indiscriminate use was evinced by the judicious Dr. Fothergill. Bleeding in this disease, he observes, is in general prejudicial. Some indeed admit of it at the first attack without any sensible inconvenience ; but a repetition of it, even where the disease is mild and favourable, seldom fails to aggravate the symptoms ; and in some cases, it appears to have produced very fatal consequences.

The heat, restlessness, delirium, and difficulty of breathing, which this evacuation commonly prevents or mitigates in other cases, are in this increased by it ; nor does the swelling of the tonsils, fauces, &c. seem to receive the least benefit from it. On the contrary, though the fulness of those parts decreases, yet the sloughs thicken, and change to a livid or black colour, the external tumour grows large, and the spitting continually diminishes. The Doctor adds, that the heat, and quickness of the pulse, seem at first to be affected by this evacuation ; but they commonly return, after a fallacious respite, with greater violence ; the patient is seized with a difficulty of breathing, falls into cold sweats, and dies suddenly.

Notwithstanding the authority of this experienced physician, the practice of bleeding conti-

nues to be countenanced by some medical writers, both at home and abroad. But Dr. Johnstone judiciously observes, that those instances in which bleeding has been employed without injury, may be fairly reckoned fortunate escapes, much more properly than cures. He informs us that he was born in a situation, where from the very great frequency of this disease about the year 1750, it was known in the neighbouring country, by the name of the Kidderminster Sore Throat. So long as the prepossession in favour of bleeding prevailed there, it was one of the most fatal diseases; but since the lancet has been laid aside, and the antiseptic method only depended upon, it has proved one of the most certain and easy to be cured.

The same arguments and authorities which oppose the practice of bleeding, may be urged with equal force against purging. Gentle cathartics, says Dr. Fothergill, have brought on very dangerous symptoms. Upon procuring a few stools with manna, especially when the disease has continued two or three days, the redness of the skin has disappeared, and the flux to the throat has been surprisngly increased. If it happens that this discharge by stool continues, the swelling of the neck commonly grows larger, the fauces become flaccid, dry, and livid, and the patient

tient in a few hours after this expires: so that purgatives, he observes, have no better effects in diminishing the tumour, and abating the supposed inflammation than bleeding.

Every thing which diminishes the patient's strength, when the disease has so strong a tendency to debilitate, must necessarily prove prejudicial. Costiveness may be obviated much better by ripe fruits, and occasional clysters of the antiseptic kind, than by any cathartic medicines.

Vomiting is one of the evacuations which may sometimes be employed in this disease, especially when nausea is very urgent at the beginning of it. A gentle emetic may then be serviceable both to empty the stomach, and to excite a diaphoresis.

Notwithstanding the septic nature of cantharides, blisters have been found useful in this complaint, by raising the pulse, and supporting the vis vitæ. This effect, it is observed, may arise from their stimulant power, independent of any evacuation; but it is probable that they also have good effects by expelling the putrid virus, or by drawing it from the lymphatic glands, in consequence of increased action excited in the vessels of the part; and the same increased action which expels the putrid matter already formed, will prevent the generation of fresh matter. Blisters are applied

plied to the back, behind the ears, and often with considerable advantage to the throat itself.

The known effects of nitre in abating heat, and other symptoms of inflammatory fevers, has suggested the use of it in fevers of every kind. But when this remedy has been much trusted in the fever attending the malignant angina, it has manifestly increased the heat and all the putrid symptoms; as might naturally be expected in a fever attended with great depression of the nervous and circulating powers, from a remedy which diminishes, instead of adding to, their strength. In respect of nitre, Dr. Fothergill observes, that it increases the faintness, which accompanies this disease, and disposes the patient either to copious sinking sweats, or to stools.

It is remarked by Dr. Johnstone, that the advantage derived from the spiritus Mindereri in many fevers, has made the use of it also fashionable in this; but that as its tendency is to attenuate the fluids, it seems very unlikely to have any good effect; and in fact, a dependence upon it has been observed to produce bad consequences, where the tenuity of the blood was considerable.

The saline draughts are liable to the same objection, as are likewise all the neutral salts, merely as such; because they thin the blood; which, though

though it may be thin without being putrid, yet tenuity disposes it so much to putrefaction, as to render suspicious all remedies which act in this way.

Mercury has been proposed as a remedy by some American physicians ; but, as Dr. Johnstone observes, if we attend to their own accounts, it will perhaps appear to be recommended upon no sufficient foundation. For they do not seem to have made use of it at any time but when blisters, serpentaria, seneka, bark, or antiseptic fomentations and gargles were also employed. Dr. Bard lays much stress upon its attenuating virtues ; but this very property ought to render us suspicious of it. Besides, mercury is the most universally evacuating medicine we are acquainted with, and is therefore in danger of producing all those fatal effects which so certainly arise from too plentiful evacuations. If there be any instances in which it appears to have done good, they seem to have happened in consequence of a copious expectoration. But this purpose may be answered by many other remedies, which are attended with infinitely less hazard, and are more likely to succeed than mercury.

Vegetable acids are excellent antiseptics, and very grateful additions to what the patient drinks in this as well as other fevers, and are always

highly useful, unless a diarrhœa, which they might increase, should require them to be used with caution. They likewise cannot be given with freedom to infants at the breast, because they coagulate the milk, occasion a diarrhœa, and in other respects disorder the tender bowels of such infants. Mineral acids, particularly spiritus vitrioli tenuis, and elixir vitrioli, are efficacious antiseptics, to the prudent application of which no objection can be made, except in the cases of infants, whose principal or only food must be milk.

The dulcified acids, myrrh, camphor, and the confectio cardiaca, are also highly beneficial in this disease. But nothing proves more efficacious than the early use of the Peruvian bark, which remedy was recommended by Dr. Wall, in 1751.

In the malignant angina, as in other putrid diseases, the liberal use of wine is attended with great advantage. It removes, says Dr. Johnstone, the depression of spirits, anxiety, and restlessness of the patient, abates heat, renders the pulse less frequent and more firm, supports the vis vitæ, promotes easy perspiration, and resists putrefaction. In short, it is essential as a cordial, and ought to be used both in the drink

and

and the diet of patients labouring under this disease.

Besides the remedies abovementioned, it has lately been found that the application of fixed air, in the ulcerous sore throat, is extremely advantageous.

It may now be proper to recite the particular method of cure, which modern practice has evinced to be most successful in the malignant angina. Of this a distinct account is delivered by Dr. Johnstone, who has judiciously compiled the sentiments of different writers on the subject.

Whenever a person is attacked with the malignant angina, he should be kept to his bed in a well-aired room, in order to promote a gentle perspiration, which is always beneficial; though profuse sweating, like every other excessive evacuation, is hurtful. If the patient should be seized with violent sickness and vomiting, this ought to be encouraged by taking a few grains of ipecacuanha, and by drinking camomile or carduus tea. Ipecacuanha is in this case remarked to be preferable to antimonial emetics, as being less disposed to run off by stool.

When the emetic has finished its operation, the stomach should be settled, and a diaphoresis encouraged by a gentle sedative draught.

R 2

R Spiritus

℞ Spiritus nitri dulcis semidrachmam.

Syrupi e meconio drachmam unam.

Aquæ cinnamomi tenuis unciam unam. Misce.

This may be repeated at bed-time ; and it is often necessary to promote perspiration, through the whole course of the disease by draughts of this kind, with the occasional addition of one grain of ipecacuanha. By causing a determination to the skin, they often check a dangerous diarrhœa.

The next step in the cure is immediately to give the bark in large doses, and those frequently repeated ; which hardly ever fails of procuring speedy relief, if the disease be taken in time. Various modes of administering this medicine have been recommended by different writers ; but in most cases the substance appears to be superior to any preparation of it. The quantity to be taken is at least half a drachm, or a drachm every three hours.

℞ Decocti corticis Peruviani uncias sex.

Pulveris corticis Peruvian subtilissimi.

Spiritus vitrioli dulcis ana drachmas duas.

Sacchari limoniati drachmas sex.

Fiat mistura, de qua cochlearia tria sunt sumenda
tertia vel secunda quaque hora.

Or,

Or,

℞ Spiritus Mindereri subacidi uncias duas.

Decocti corticis Peruviani uncias sex.

Pulveris subtilissimi corticis ejusdem drachmas duas.

Aquæ cinnamomi spirituosæ.

Sacchari albi ana unciam unam.

Fiat mistura cujus capiat cochlearia quatuor tertia
quaque hora.

The decoction, as Dr. Johnstone observes, though recommended by some writers, is less useful than the bark itself, but may sometimes be given with advantage when the stomach is too weak to admit the substance. The bark must not be discontinued, because it vomits the patient a few times at first. For even when this happens, it is a useful remedy, and the best emetic that could be given; because it cleans the throat, at the same time that it acts as a most excellent antiseptic topical application; and having thrown up a few times, it will frequently afterwards stay upon the stomach without the least inconvenience. If the stomach should continue constantly to reject it, we must then give it in clysters, in which form it produces nearly the same effects as when given in the other way, but a double quantity of it must be employed.

℞ Pulveris corticis Peruviani,

———— Gummi Arabici ana drachmam unam.

Decocti albi uncias quatuor.

Fiat enema tertia quaque hora injiciendum.

It is sometimes necessary to administer nourishment as well as medicine by means of clysters. In such cases it is an excellent method to mix the quantities of bark and gum Arabic, above prescribed, with four ounces of new milk, which makes a composition both nutritious and antiseptic.

At the same time we must endeavour to check the vomiting, by giving spiritus nitri dulcis in pepper-mint water, or the saline draughts of Riverius in the act of effervescence.

The operation of the bark, and its easy digestion, may be promoted in many cases by joining with it some aromatic remedies, particularly the confectio cardiaca, which is a useful cordial in this disease. The following mixture is prescribed by Dr. Fothergill.

℞ Aquæ alexiteriæ simplicis uncias sex.

Spirituosæ cum aceto sesquiunciam.

Confectionis cardiacæ sesquidrachmam.

Pulveris contrayervæ simplicis semidrachmam.

Syrupi croci semunciam.

Fiat mistura de qua capiat cochlearia duo tertia quaque hora.

The

The bark may be added to this formula, or a drachm or two of *confectio cardiaca* to one of the bark mixtures.

The bark has a purgative effect on some constitutions, and is very apt to increase a diarrhœa wherever there is a previous tendency to it. In such cases it is proper to add the powder of *cascarilla*, which generally answers all the purposes of an astringent, and is preferable to the *electarium e scordio*, or any other medicine of that class, because it co-operates with the bark in all its other intentions. If the *cascarilla* should not succeed, as it is of the utmost consequence to stop this evacuation, we must give small doses of *ipecacuanha*, joined with the extract. *ligni Campechensis*. One or other of these remedies is generally efficacious in stopping the diarrhœa: at least it is always right to try them before we have recourse to opiates, which should be the last resort; because opium, by its strong sedative power, is in danger of increasing relaxation, and consequently the debility of the system.

The patients diet should consist chiefly of preparations from the farinaceous vegetables, *panado*, *sago*, *salep*, &c. with port wine or claret. All sorts of summer fruit, oranges, strawberries, mulberries, currants, cherries, apples roasted or

R 4

boiled,

boiled, &c. unless contra-indicated by a diarrhœa, should be eaten in great plenty.

The drink should be good rough cyder, or water mixed with plenty of port, and acidulated with the mineral acids, particularly spiritus vitrioli tenuis or elixir vitrioli. But the dulcified acids are always to be preferred for children, because they have less tendency to coagulate the milk.

Besides wine diluted with water for common drink, the patient ought frequently to take it pure as a cordial; and in this view, a glass of good port is preferable to officinal medicines. When the diarrhœa is profuse, the wine should be mulled with spices, which will greatly assist it to strengthen the intestines, and stop the purging.

If the patient should have any tendency to a diarrhœa in the beginning of the disorder, the following apozem may be drank at pleasure,

℞ Gummi Arabici semiunciam.
 Aquæ hordei semilibram.
 Spiritus nîtri dulcis semunciam.
 Sacchari rosacei unciam unam,
 Fiat apozema.

A perseverance in this plan is generally successful in correcting the putrescent tendency throughout

out the system. The remaining part of the indication is to stop the progress of putrefaction wherever it appears, especially in the fauces and throat. For this purpose the mouth and throat must often be washed with acid, astringent, and antiseptic gargles. In the milder stages of the disease, this intention is answered by vinegar and water; but when the ulcers are large, and increase very fast, gargles made of tincture of myrrh, with simple oxymel, and strongly acidulated with sp. vitrioli tenuis, may be employed with advantage. A more useful gargle than either of the former is made of tinctura rosarum and spirit of sea salt.

℞ Tincturæ rosarum semilibram.

Mellis rosarum semunciam

Spiritus salis marini semidrachmam.

Fiat gargarisma.

Or,

℞ Tincturæ rosarum semilibram.

Mellis rosarum.

Spiritus nitri dulcis, ana semunciam.

Fiat gargarisma.

A particular attention to this part of the cure is of the utmost consequence; for by thus frequently washing the throat, the putrid virus is removed from the ulcers, and the strong acid
spirits,

spirits, by their antiseptic power, stop the putrefactive process, and prevent the formation of fresh matter. By the stimulus they likewise give to the salivary glands, a considerable flow of saliva is produced, which greatly contributes to keep the ulcers clean. The patient ought always to wash his mouth with one or the other of these gargles, before he eats, drinks, or takes his medicines. By these means the putrid matter will be prevented from passing into the intestines, where it would be apt to produce ulcerations; and consequently a violent diarrhœa, griping, or dysentery. Children who are incapable of using gargles should have them injected into their mouths with a syringe; and the person that attends them should frequently wash their mouths with a linen rag, made wet in spirit of salt, well diluted with tinctura rosarum.

When the sloughs are large and separate but slowly, it is sometimes proper to touch them with myrrh mixed with oxymel, or with Van Swieten's mixture of twenty drops of spirit of sea salt, and half an ounce of mel rosarum. The same purpose may be answered by the following epithem.

R Spiritus salis marini drachmas duas.

Tincturæ myrrhæ.

Mellis rosarum, ana unciam. unam. Fiat epithema.

These

These applications may be conveyed to the ulcers by means of an armed probe.

External applications to the neck also are sometimes used with advantage. When the symptoms are mild, a drachm of camphor added to an ounce of the volatile liniment, and rubbed frequently on the neck, will be sufficient. In the more advanced stages, tincture of the bark is a better application. Either of them is preferable to cataplasms, which are apt to become cold, stiff, and uneasy to the patient, and therefore do much more hurt than good. A blister to the neck in these circumstances is never to be omitted.

Antiseptic vapours ought also to be considered as remedies of great importance. The steams of myrrh and camphor, boiled in vinegar and honey, are of considerable use in cases of malignant angina, by facilitating respiration, and increasing the flow of saliva. They are also farther serviceable in correcting the putrid quality of the air, which being thrown out from the lungs, occasion the parts about the throat, fauces, and nostrils, to be particularly affected with malignant ulcers. By means of these vapours the fomes of the disease is altered and counteracted, at the same time that the ulcerated parts are cleaned and healed. The humid vapour of vine-
6 gar,

gar, with honey and myrrh, or camphor, should be drawn into the mouths of the sick, as often as they can conveniently do it.

For guarding against the effects of so putrid a contagion, it is also recommended, that the acid air or spirit of sea salt should be kept rising constantly in the room, by pouring oil of vitriol once or twice a day on sea salt placed in a convenient vessel.

Moderate warmth, especially in winter, is particularly necessary. The patients should therefore always be confined to their chamber; and in admitting fresh air by the windows, care must be taken not to check perspiration, which is so highly beneficial in this disease. It is proper, however, that fresh air should be admitted, so far as is consistent with moderate warmth; and that as many growing vegetables be placed in the room as it will conveniently hold. But in order to obtain the perfect advantage of such plants, it is necessary to preserve them in a vegetating state; because in such a condition only they are capable of absorbing the phlogiston.

The malignant angina, especially after repeated attacks, sometimes leaves a tendency to consumption; in which cases riding and a milk diet are the best remedies. It often happens that tumours in the glands and throat remain after this disease.

disease. Sometimes the abdomen swells, and the patient is subject to painful gripings, which probably arise from, or are accompanied with, an infarction of the lymphatic glands in the abdomen.

Those complaints will generally yield to friction, strengthening bitters and the bark. Active purgatives are in these circumstances always pernicious, and the gentlest laxatives only are admissible. Five or six grains of rhubarb, with the same quantity of sal polychrest given once a day, and continued for some length of time, with the use of a simple chalybeate water, have been found very serviceable in removing these relicks of the disease.

Of the SUFFOCATIO STRIDULA, or CROUP.

DR. Home, who treats of this disease, considers it as entirely unknown until he observed it. According to the account he delivers it is peculiar to children from the time they are weaned till twelve years old, and to certain seasons of the year, viz. from October to March. It is most frequent near the coast, pools, and in low marshy situations. Its characteristic symptoms, he informs us, are a shrill voice, quick laborious

borious breathing, the pulse frequent and strong at first, but weak towards the end of the disease, scarcely any difficulty of deglutition, or remarkable inflammation of the fauces, and dull pain, and sometimes external swelling at the upper part of the trachea, with the senses distinct to the last. The disease is the more dangerous, as, though extremely rapid in its progress, it gives no alarm till death is near at hand.

On dissection in nine different cases, a white soft preternatural membrane was found either to cover a part of the internal surface of the trachea, or to line the whole of it. This membrane was quite loose, and underneath it was found a quantity of pus, which was squeezed from the branches of the bronchia, though they seemed quite uninfamed. Dr. Home thence concludes the disease to be seated in the cavity of the wind-pipe; its principal seat being the back part of the trachea, where are no cartilages, and where there is the greatest number of glands. He supposes the disorder to proceed from an excessive secretion of mucus, by the inspissation of which the preternatural membrane is formed.

There are two different states of the disease, viz. the inflammatory, and the purulent. In the former the pulse is strong, and the urine thin.

In

In the latter, the pulse is weak, and the urine has a light oozy purulent sediment.

In the inflammatory stage Dr. H^ome recommends bleeding expeditiously and plentifully; first with the lancet, and afterwards by leeches applied to the upper and fore part of the throat. The belly is to be kept open by tablets of magnesia, made palatable with sugar, and by sal polychrest dissolved in whey. After the vessels are well emptied, he allows blisters to be applied round the neck. Emollient fomentations and cataplasms applied round the neck are of considerable use, and keep up a local evacuation. He thinks vomits pernicious, by increasing the secretion of mucus, but recommends gentle sudorifics, and steams of warm water and vinegar.

In the second stage, he says, evacuations in general are hurtful; and that in this case nothing is to be done but to bring up the matter from the lungs. As this cannot be effected either by vomits or stimulating steams, he thinks that in cases of imminent danger bronchotomy may be tried.

Nicholas van Rosenstein, late physician to the king of Sweden, takes notice of this disease, which he calls a difficult disease of the throat, with a preternatural membrane in the wind-pipe. He adopts the description, relates the cases, and coincides

cides in all respects with the opinions of Dr. Home. He has also collected a number of cases from Wilcke's Dissertation, and the reports of other Swedish practitioners, which correspond with the former, both in the symptoms, and the appearances after death.

In the cure of this disease he recommends bleeding, gentle laxatives, and the application of blisters to the neck ; or, if these be thought too rough, he says we may wrap the neck in a moderately warm emollient poultice, to which is added some mustard seed. This we may suffer to remain on the neck till the skin becomes a little reddish, with small elevated points. We may afterwards, he observes, leave the mustard seeds out, and continue the emollient poultice, which is to be changed for a warmer one as often as it grows cold. He also recommends to prepare a tea of elder flowers, adding to it a little vinegar ; and to dip into it a sponge, which is to be held under the nose, or laid upon a napkin on the breast, so that the patient may inhale the vapour of it. Professor Borgius found the vapour of vinegar to have an excellent effect in this disease, and therefore caused the patient to smell to a napkin dipped in vinegar ; besides which he orders the pillows and curtains of the bed to be sprinkled with vinegar.

Dr.

Dr. Cullen is in the number of those writers who have considered this disease as an inflammatory affection of the mucous membrane of the larynx and trachea, producing an exudation analogous to that found on the surface of inflamed viscera, and appearing partly in the form of a membranous crust, and partly in that of a fluid resembling pus; but he adds, though this disease consists in an inflammatory affection, it does not commonly end either in suppuration or gangrene. The troublesome circumstance of it, he observes, seems to consist in a spasm of the muscles of the glottis, threatening suffocation.

Considering the disease as inflammatory, he recommends the usual remedies of inflammations. He informs us, that bleeding, both general and topical, has often given immediate relief, and by being repeated has entirely cured the disease. That blistering also near the ~~part~~ affected has been found useful. That, upon the first attack of the disease, vomiting, immediately after bleeding, seems to be of considerable use, and sometimes suddenly removes the disease. That in every stage of the disorder, the antiphlogistic regimen is necessary, and particularly the frequent use of laxative clysters. And that though he supposes a spasm affecting the glottis is often fatal in this disease, he has not found antispasmodic medicines to be of any use.

By others, this disease is considered as entirely spasmodic, and is said to have been successfully cured by the use of *assa foetida*.

Of the ANGINA PECTORIS.

FOR the name and account of this disease we are indebted to the experienced Dr. Heberden, who represents it as being marked with strong and peculiar symptoms; considerable for the danger of which it is productive, and not extremely rare.

It seizes persons when they are walking, and particularly when they walk soon after eating, with a most disagreeable and painful sensation in the breast, which seems to threaten immediate destruction; but the moment they stand still, all this uneasiness vanishes. In all other respects the patients are at the beginning of this disorder perfectly well, and in particular have no shortness of breath, from which it is totally different.

After it has continued some months, it will not cease so instantaneously upon standing still; and it will come on not only when the persons are walking, but when they are lying down, and oblige them to rise up out of their beds every
night

night for many months together. In one or two very inveterate cases it has been brought on by the motion of a horse or carriage, and even by swallowing, coughing, going to stool, or speaking, or by any disturbance of mind. Dr. Heberden has heard one person say, that he had known it attack him while he was up, and standing still or sitting; but most whom the Doctor has seen have been perfectly unaffected with riding in any manner, with speaking, swallowing, laughing, sneezing, or vomiting. One has told him that this complaint was greatest in winter; another, that it was aggravated by warm weather; in the rest the season was not suspected of making difference.

Dr. Heberden has observed something like this affection of the breast in one woman who was paralytic, and has heard one or two young men complain of it in a slight degree. But all the rest, whom he has seen, who are at least twenty, were men; almost all above fifty years old, and most of them with a short neck, and inclining to be fat.

When a fit of this sort comes on by walking, its duration is very short, as it goes off almost immediately upon stopping. If it come on in the night, it will last an hour or two; Dr. Heberden has met with one, in whom it once continued for

several days, during all which time the patient seemed to be in imminent danger of death.

Dr. Heberden informs us, that when he first took notice of this distemper, and could find no satisfaction from books, he consulted an able physician of long experience, who told him that he had known several ill of it, and that all of them had died suddenly. This observation Dr. Heberden thinks is generally true of such patients; having known six of those, for whom he had been consulted, die in this manner; and more perhaps may have experienced the same death, which he had no opportunity of knowing. But he remarks, though the natural tendency of this illness be to kill the patients suddenly, yet unless it have a power of preserving a person from all other complaints, it will easily be believed, that some of those who are afflicted with it, may die in a different manner; since this disorder will last, as he has known it more than once, near twenty years, and most usually attacks only those who are above fifty years of age. He has, accordingly, observed one, who sunk under a lingering illness of a different nature.

The os sterni is usually pointed to as the seat of this malady; but it seems sometimes as if it was under the lower part of that bone, and at other times under the middle or upper part, but
always.

always inclining more to the left side ; and sometimes there is joined with it a pain about the middle of the left arm. What the particular mischief is, which is referred to those different parts of the sternum, it is not easy to guess, and Dr. Heberden has had no opportunity of knowing with certainty. It may, he thinks, be a strong cramp, or an ulcer, or possibly both.

Dr. Heberden observes, that the opinion of its being a convulsion of the part affected, will readily present itself to any one, who considers the sudden manner of its coming on and going off ; the long intervals of perfect ease ; the relief afforded by wine and spirituous cordials ; the influence which passionate affections of the mind have over it ; the ease which is felt from varying the posture of the head and shoulders by straitening the vertebræ of the thorax, or by bending them a little backwards or forwards ; the number of years which it will continue without otherwise disordering the health ; its generally bearing so well the motion of a horse or carriage, which circumstance often distinguishes spasmodic pains from those which arise from ulcers ; and, lastly, its coming on in certain patients at night, just after the first sleep, at which time the incubus, convulsive asthma, numbness, epilepsies, hypochondriac languors, and other complaints justly

attributed to the disturbed functions of the nerves, are peculiarly apt either to return or to be aggravated.

The pulse is, at least sometimes, not disturbed by this pain, and consequently the heat is not affected by it. This circumstance Dr. Heberden has had an opportunity of knowing by feeling the pulse during the paroxysm; but he has never had it in his power to see any one opened, who had died of it; the sudden death of the patients adding so much to the common difficulties of making such an enquiry, that most of those, with whose cases he had been acquainted, were buried before he had heard that they were dead.

But though it be most probable that a strong spasm is the true cause of this disorder, yet there seems to be some reason for thinking, that it is sometimes accompanied with an ulcer, and may partly proceed from that cause. For Dr. Heberden has seen two of those patients, who often used to spit up blood and purulent matter, one of whom constantly asserted, that he felt it come from the seat of the disorder. Another had a painful sensation in swallowing, upon pressing the part which seemed to be affected. From a fourth, who fell down dead, without any notice, there immediately arose such an offensive smell,

as made all, who happened to be present, conclude that some foul abscess had just then broken.

Dr. Heberden has seen no benefit arise from bleeding, vomits, and other evacuations. Wine and cordials taken at going to bed will prevent, or weaken the night fits; but nothing does this so effectually as opiates. Ten, fifteen, or twenty drops of tinctura Thebaica taken at lying down will enable those to keep their beds till morning, who had been forced to rise, and sit up two or three hours every night, for many months. Such a quantity, or a greater, might safely be continued, as long as it is required: and this relief afforded by opium may be added to the arguments, which prove those fits to be of a convulsive kind.

OF HÆMOPTOE, and CONSUMPTION.

RESPECTING the cure of hæmoptoe, or a spitting of blood, the public is indebted to Dr. Dickson, of the London-Hospital, for the recommendation of a medicine, which before had at least not been generally used in this disease. This remedy he acknowledges to have had from the late Dr. Letherland, and is nothing

else than nitre. To patients in the hospital Dr. Dickson prescribed it in the form of an electary with the conserve of red roses, in the proportion of four ounces of the latter to half an ounce of the former. Of this composition the bulk of a large nutmeg was directed to be given, four, six, or eight times a day, according to the urgency of the case. The good effects of this remedy were so remarkable, that, when given early in an hæmoptoe, Dr. Dickson affirms he can depend upon it almost as much as upon the Peruvian bark in a genuine intermittent. When the pulse is full and hard, the latter of which circumstances almost always exists, more or less, in this complaint, some blood is to be taken away; and this is generally found sily. The blood-letting, likewise, is occasionally repeated.

When the cough is very troublesome, a small opiate frequently exhibited, is absolutely necessary. A cool regimen, with quiet both of body and mind, are also advantageous during the continuance of the disease.

Dr. Dickson informs us, that in practice, the nitre, joined with sperma ceti, or pulv. e traga-canth. comp. has produced equally good effects with the electary above mentioned; in the composition of which the Doctor at first considered the conserve only as a vehicle for the nitre, though

he means not to insinuate that the former is destitute of efficacy.

When a pulmonary consumption is formed, whether in consequence of a previous hæmoptoe, or otherwise, the method of cure has universally consisted in the use of balsamic or vulnerary remedies ; but from the judicious observations of Dr. Fothergill, there is reason to question the propriety of this general practice.

The term *balsamic* includes a vast variety of different substances. A solution of sperma ceti, nay, sometimes oil mixed with water, by the means of a mucilage, is stiled by some a balsamic, as well as a solution of the balsam of Peru, capaivi, olibanum, and other heating resinous bodies : but there is a great difference in the quality of these medicines. The former, if free from rancidity, are properly emulsions and antacid. The latter are literally balsamics, all of which are more or less pungent and acrimonious.

The general opinion that gummi-resinous substances possessed a balsamic virtue, seems to be easily accounted for. These remedies, which at first were used to defend ulcerated parts from the air, appearing to assist in healing wounds externally, were thence imagined to have similar effects internally administered, in diseases proceeding

ceeding from, or attended with ulcerations, or in wounds of any internal parts.

Balsamics and vulneraries, it is observed, are nearly allied in our conceptions of these substances; as they warm and stimulate the solids, and prevent in the fluids a tendency to putrefaction. Their qualities are a little heat, with some small stypticity, and something agglutinant; all which are mostly united in the balsams; some containing more, and others less of these respective properties.

We know, that if, in an inflamed state of an ulcer, in a young and vigorous constitution, a warm stimulating gummy resin is applied, pain, heat, and inflammation will ensue, fluxion to the pained part will be great, a very considerable discharge will follow, consisting of the juices emitted from the wounded vessels, and the vessels themselves dissolved by heat and putrescence. If these are excessive, the detriment to the sick will be in proportion to the degree of the discharge and the part affected. On the other hand, the same medicines applied to a cold, serous, phlegmatic habit, in an advanced age, will perhaps be just sufficient to produce such effects as would be deemed perfectly salutary; that is, bring on a proper digestion, and thereby lay the foundation of a cure.

In properly tempering the heat and stimulating qualities of balsamic applications, and adjusting them to the age and constitution of the patient, consists no small part of the skill requisite in this part of surgery. Supposing, therefore, that these remedies have similar effects when internally used, what consequences are we to expect from them in ulcerations of the lungs? If they may be supposed to pass the stomach, and other offices of digestion unaltered, will they not produce the like effects? They certainly will stimulate, and this in a great degree, in proportion to their sensible qualities.

If we take a concise view of the rise and progress of the phthisis pulmonalis, it will appear more evident that all medicines possessed of heating stimulating qualities, are in general improper in the treatment of it.

This disease, for the most part, takes its rise from some accidental cold occasioning a cough, which, if neglected, confirms, by its frequency and force, the inflammatory tendency that first seized some particular part of the lungs. These symptoms being neither attended with pain, much fever, or loss of appetite or strength at first, are still farther neglected, till by their violence, some portion of the lungs is so far affected, as to become unfit for the purpose of circulation; the
inflamed

inflamed vessels being either dissolved into pus, or forming with the juices they contain a scirrhus, or other immoveable obstruction. When this obstruction is small, it may perhaps, if proper care be taken, remain without much increase during the patient's life. But if it is large, and a considerable portion of the lungs be affected, the disease is continually increasing, either to supuration or a scirrhus hardness, and thereby rendering a portion of the lungs impervious. For as the same quantity of blood must necessarily pass through the lungs, now as formerly, the action and reaction of the fluids and solids must be increased more than is consistent with the safety of this organ; and this in proportion to the extent and situation of the part affected. If then, from the first beginning of this disease to its conclusion, the *momentum* of the blood in the lungs becomes greater in proportion to the obstruction, and that the effect of this increased *momentum* is an increase of the obstruction, and as the medicines abovementioned have a tendency, more or less, according to their different degrees of activity, to increase this *momentum*, ought we not to be extremely diffident in applying them in such cases, by whatever authority they are recommended?

It may be alledged that balsams, in certain stages of this disease, especially where there is

a manifest ulceration, and great quantities of pus are formed, must be of use as antiseptics. Nor will it be denied that they may be possessed of this property, as most heating aromatics and bitters seem to be. But supposing the whole of this antiseptic efficacy could be conveyed unimpaired to the part affected, through all the changes to which they are liable in the course of digestion, still they would be active stimulants; and whatever effect they might have on the juices, would stimulate the solids to more frequent and injurious contractions.

It is most probable, however, that much of this heating quality is expended before it reaches the part affected; whilst it is evident that most, if not all the stimulating tribe of medicines, whatever effect they produce on certain parts, as cantharides on the urinary passages, yet exert a part of their active qualities on the nerves near which they pass, so as in some degree to accelerate the motion of the blood.

Let us next examine the other principal remedies employed in the cure of this disease. The first we shall mention is the bark.

The apparently regular paroxysms of an intermittent, so conspicuous in certain stages of this disease, are regular cold fits, succeeded by great heat, followed by copious sweats; and accession of
every

every violent symptom ensuing; all these circumstances draw the attention of the practitioner to a remedy, which, under like appearances, had afforded the most beneficial relief.

The bark, Dr. Fothergill observes, has been pushed, in this stage of the disease, in too many instances, with as much vigour as is necessary to conquer the most genuine autumnal intermittent, till both the patient and the prescriber were weary of the process; the former loathing the remedy, and the latter finding it ineffectual.

But this is not the worst: the bark is so far from curing the hectic arising from distempered lungs, that, according to the most attentive observation, it not only takes up that time which might probably have been better employed in the use of other medicines, but, for the most part, it aggravates the disease beyond remedy.

Dr. Fothergill informs us, that he has seen the bark given in almost every state of the phthisis pulmonalis, even in the first commencement, while the breast was pained, the cough dry and harsh, the pulse quick and hard, and the heat considerable. We may well suppose the consequences, which were frequently a hæmoptoe, and all its worst attendants, ulcered lungs, purulent spitting, colliquation, and death. He has also seen it administered in most of the subsequent stages,

stages, often indeed with less appearance of injury, but at least without benefit.

The same judicious author observes, that there are two causes of consumptions, which often produce symptoms so similar to those of the genuine phthisis, as sometimes to have led him to make use of the bark in apparent tendencies to a genuine pulmonary consumption with advantage.

One of these causes is, the suckling of children longer than is consistent with the mother's ability. This case frequently occurs among the middling and lower class of females of constitutions naturally delicate and tender. In such a state of weakness, some slight cold brings on a cough, which increases gradually, till at length it produces the true pulmonary consumption. Here the bark given early, in moderate doses, and merely as a tonic remedy, is often of excellent use.

Another cause is, any weakening discharge either from abscesses, the greater operations of surgery; a copious and constant *fluor albus*, or similar enfeebling evacuations. That the bark is, for the most part, of use in these cases, when the lungs are not inflamed, is indubitable; and if they are so affected, but not beyond a certain degree, it is also efficacious in preventing the progress of the consumption.

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In phthifical complaints fucceeding fuch fituations, a prudent trial of the bark feems neceffary. Small dofes of the decoction given either alone, or joined with the faline mixture, or fuch other additions as the phyfician thinks proper, may be given. But if the breath becomes more tight and oppreffed, the cough dry, the pulfe more quick and hard, and efpecially if flight tranfitory pains or ftitches about the thorax are more frequently complained of, a perfeverance in the ufe of the bark will increafe the difeafe. If fuch alfo fhould be the appearances in the progrefs of the difeafe, or, from whatever caufe, if the bark is accompanied with fuch effects, the ufe of it ought to be with-held.

If, on the other hand, no pain, tightnefs, or oppreffion, is perceived, and there appears a manifef abatement of the fymptoms, it will be advifable to proceed. The adminiftration of this medicine, however, requires a judicious obferver, and it ought neither to be given in the early inflammatory ftage of this difeafe, nor be continued in any fubfequent period, if it produces the effects abovementioned.

By its tonic virtues it will often enable nature to conquer many difficulties. In confirmation of this remark, Dr. Fothergill farther obferves, that he has feen it of ufe in promoting expectoration,

ration, when this became deficient from want of strength towards the end of peripneumonic fevers; but that it stops this discharge, changes slight wandering pains into such as are fixed, and increases them with all their consequences, in a variety of cases.

The elixir of vitriol is often exhibited in consumptive cases with no less impropriety than the bark. This medicine, from its astringency, is obviously improper in the inflammatory state of the disease. But in the latter stage, when a general tendency to putrefaction takes place, it is serviceable in resisting this effect; it restrains the colliquative sweats, and if the lungs are not injured past repair, it is allowed to be a very useful auxiliary.

Various are the opinions concerning the efficacy of Bristol water in this disease. The experienced author last mentioned informs us, that he has seen many persons recover from pulmonary diseases after drinking these waters, whose cure seemed to be doubtful from any other process; and he thinks this circumstance, added to the general reputation of Bristol waters in phthical cases, affords sufficient inducement to recommend the trial of them in the early stage of such complaints. It is however before the approach of a confirmed phthisis that patients ought

to repair to Bristol ; otherwise a journey thither will not only be without benefit, but may even prove detrimental.

Some have imagined that the journey, a better air, change of situation, and of objects, have contributed to the patients recovery ; and these may doubtless be of advantage. It seems, however, that the water drank fresh at the pump, actually contains principles conducive to the recovery of patients affected with phthysical complaints. It seems to possess a slight calcareous stypticity, and perhaps the air it contains may also have an antiseptic quality. On the whole, it appears to be an efficacious medicine, and is often found of remarkable benefit to consumptive patients.

Change of air, sometimes even from good to bad, is of great consequence in all chronic diseases of the lungs. In consumptive cases, however, the air of all large cities is found to be particularly injurious.

A sea voyage has been much recommended in the cure of this disease. The benefit of exercise has also been strongly urged by many writers ; but however salutary, when properly used, it certainly ought to be regulated with discretion. Dr. Dickson declares himself of opinion, that riding on horseback in consumptive cases, is most commonly hurtful, without such regulations as
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in general have been little regarded. For instance, he has known a person who, by a ride of an hour or two in the morning, was very much recruited, and who, at another time, in the afternoon and evening, without undergoing more bodily motion, has returned faint and languid, and apparently worse. This observation on the same person has been so frequently made, as to point out clearly the times when this exercise shall not do hurt in consumptive cases. In this disease the pulse, however calm in the morning, becomes more frequent in the afternoon and night, attended with heat, and other feverish symptoms. Exercise therefore, at this time, can only add to the mischief of the fever. For this reason he prudently recommends to all hectic persons, especially those who shall travel to distant places on account of a better air, or the benefit expected from any particular water, that their travelling should be slow, confined to a very few hours, and only in the morning.

Moderate journies, in temperate seasons, with the cautions abovementioned, and as much as may be on horseback, are of excellent use in consumptive cases; observing, at the same time, exact temperance, in respect both of diet and liquors.

The best adapted diet in consumptive cases, is milk, particularly that of asses. It may however be remarked, that there are constitutions in which this salutary nutriment seems to disagree. A propensity to generate bile, or too strong a disposition to aescency from a weakness of the digestive organs, both merit attention. Whey, either from cows or goats milk, appears to be more suitable in the former case; and for correcting acidity, lime-water may be added to the milk. The method of adding rum or brandy to asses or cows milk, should be used with great caution. For when added beyond a certain quantity, as is often the case, they not only coagulate the milk, but heat the body; by which means the former disagrees with the patient, and the spirit augments the disease.

Repeated bleedings, in small quantities, are considered in consumptive cases as highly advantageous: and in particular circumstances they undoubtedly are so; for instance, when the constitution apparently abounds with blood; when the fluid drawn off is extremely fizy; when there is much pain in the breast; and when venesection is followed by an abatement of every symptom. In these cases bleeding is certainly proper, and ought to be repeated so long as it seems to be attended with advantage. In very delicate consti-

constitutions, however, where the pulse is quick, with some degree of fulness, and the blood last drawn considerably fizy, it may not prove equally serviceable.

It deserves to be remarked, that the inflammatory appearance of the blood is not alone a sufficient reason for bleeding; but in determining the propriety of this evacuation, all other circumstances should be considered; such as the patient's age, strength, habit, and the state of the disease.

A remark which has been judiciously made by Dr. Fothergill, ought not to be omitted in the account of this disease. It is, that young delicate females, from the age of fifteen, or sixteen, and upwards, are often subject to consumptions. When the disease has advanced considerably, the *menfes*, if they have made their appearance, most generally cease. This alarms their female friends, and they call upon the physician to use his utmost endeavours for restoring the discharge; believing the cessation of it to be the immediate cause of the phthysical complaint. Induced by their solicitations, medicines have sometimes been administered, that, without obtaining this end, have tended to aggravate the distemper. This deficiency is often of no real disadvantage in those cases; and in many the evacuation would prove

injurious, by diminishing the strength, which is already too much impaired. Even small bleedings at the regular periods, have often done more harm than good. A sudden suppression may require bleeding; but when the evacuation fails through want of strength, and from poverty of blood, the renewal of it increases the disease.

Drains also, such as issues, setons, and blisters both temporary and perpetual, as they are called, are recommended by various authors in the cure of disorders of the breast.

Of the CATARRHOUS COUGH.

THE catarrhus cough, or that affection of the breast which is subsequent to the catching of cold, is supposed by Mr. Mudge to proceed from the pituitary membrane, which forms the internal surface of the lungs, being thickened, and in some measure inflamed. That such is actually the case before the glands have been unloaded by the discharge of the obstructed mucus, he considers as evident from the soreness which, at the beginning of the disorder, the cough occasions in the breast, but more particularly at the lower part of the wind-pipe, about the
junction

junction of the clavicles. In conformity to this idea of the disorder, Mr. Mudge observes that the two great indications would be, to prevent as much as possible the irritation arising from the convulsive shocks of the cough on the inflamed parts, and to remove the inflammation itself by such emollient applications as can conveniently be administered. He farther remarks, that these intentions are effectually answered by opium, and by inhaling warm steams into the lungs. For administering the latter of these he recommends the use of the inhaler, which he thus describes.

The body of the instrument holds about a pint; and the handle which is fixed by the side of it, is hollow. In the lower part of the vessel, where it is soldered to the handle, there is a hole, by means of which, and three others on the upper part of the handle, the water, when poured into the inhaler, will rise to the same level in both. To the middle of the cover is fixed a flexible tube, about five or six inches long, with a mouth-piece of wood or ivory. Underneath the cover is fixed a valve, which opens and shuts the communication between the upper and internal part of the inhaler and the external air, for a purpose which shall be presently explained.

When the mouth is applied to the end of the tube in the act of inspiration, the air rushes into the handle, and up through the body of warm water, and the lungs become consequently filled with hot vapour. In expiration, the mouth being still fixed to the tube, the breath, together with the steam on the surface of the water in the inhaler, is forced up through the valve in the cover. In this manner therefore respiration is performed through the inhaler, without the necessity, in the act of expiration, of either breathing by the nose, or removing the pipe from the mouth.

The method of using this instrument is as follows :

In the evening, a little before bed-time, the patient, if of adult age, is to take three drachms, or as many tea spoonfuls of elixir paregoricum, in a glass of water. If the subject is younger, for instance under five years old, one tea-spoonful; or within that period and ten years, two spoonfuls. [Each tea-spoonful contains somewhat less than one quarter of a grain of opium.] About three quarters of an hour after, the patient should go to bed, and being covered warm, the inhaler three parts filled with water nearly boiling, (which from the coldness of the metal, and the time it ordinarily takes before it is used by the patient, will be of a proper degree of warmth

warmth) and being wrapped up in a napkin, but so that the valve in the cover is not obstructed by it, is to be placed at the arm-pit, and the bed-cloaths being drawn up and over it close to the throat, the tube is to be applied to the mouth, and the patient should breathe through it about twenty minutes, or half an hour.

It is very evident, says Mr. Mudge, as the whole act of respiration is performed through the machine, that in inspiration the lungs will be filled with air which will be hot, and loaded with vapours by passing through the body of water; and in expiration, all that was contained in the lungs will, by mixing with the steam on the surface of the water, be forced through the valve in the cover, and settle on the surface of the body under the bed-cloaths.

The great use of this particular construction of the instrument is, first, that as there is no necessity, at the end of every inspiration, to remove the tube from the mouth, in order to expire from the lungs the vapour which had been received into them, this machine may therefore be used with as much ease by children as elder people. Secondly, as a feverish habit frequently accompanies the disorder, the valve in that respect also is of the utmost importance. For a sweat, or at least a free perspiration, not only relieves the pa-

tient from the restless anxiety of a hot, dry, and sometimes parched skin, but is also, of all others, the most eligible evacuation for removing the fever; and it will generally be found, that after the inhaler so constructed has been used a few minutes, the warm vapour under the cloaths will, by settling upon the trunk, produce a sweat, which will gradually extend itself to the legs and feet.

In a catarrhus fever, or any feverish habit attending this cough, it would be proper to take a draught of warm thin whey a few minutes before the inhaler is used; and after the process is over, the sweat which it has produced may be continued by occasional small draughts of weak warm whey, or barley-water. The sweating is by no means so necessary to the cure of the catarrhus cough, as that the success of the inhaler against that complaint at all depends upon it; yet, as has been already remarked, when the disorder happens to be accompanied with a feverish habit, the advantages of this particular construction will be very important.

After this respiratory process is over, the patient usually passes the night without the least interruption from the cough, and feels no farther molestation from it, than once or twice in the morning to throw off the small quantity of
ferous

ferous fluid which had dripped into the bronchia and vessels during the night; the thinner parts of which being evaporated, what remains is soon discharged by a very gentle effort.

Mr. Mudge informs us, that if the inhaler be used the same night that the catarrhus cough has made its appearance, it will, in ordinary cases, be productive of an immediate cure. But if the soreness of the respiratory organs, or the violence of the cough, shew the cold which has been contracted to be very severe, he advises that the inhaler, without the opiate, should be repeated for the same time the next morning; as it likewise ought, if the use of the inhaler has been delayed till the second night. If the cough however has continued some days, it will be necessary to employ both parts of the process at night and the succeeding morning, as the complaint is then more confirmed.

After trying various pectoral ingredients, Mr. Mudge found the vapour of none of them so inoffensive and salutary as that from warm water alone.

When the inhaler is used in a few hours after the seizure of the cough, we are told that the patient is infallibly surprized with an immediate cure; but in proportion as the application of
this

this remedy is delayed, the disorder becomes more obstinate.

If the patient expectorates with ease and freedom a thick and well digested inoffensive phlegm, there is generally little doubt of his spitting off the disorder, with common care, in a few days; and till that is accomplished, a proper dose of elixir paregoricum for a few successive nights will be found very useful in suppressing the fatiguing irritation and ineffectual cough, occasioned by a matter which, dripping in the early state of the disease into the bronchia during the night, is commonly at that time too thin to be discharged by those convulsive efforts.

If, however, notwithstanding a free and copious expectoration, the cough should still continue, and the discharge, instead of removing the complaint, should itself, by becoming a disease, be a greater expence than the constitution can well support, it is possible that a tender patient may spit off his life through a weak, relaxed pair of lungs, without the least sign of purulence, or any suspicion of suppuration. In these circumstances, increasing the general perspiration by the use of a flannel waistcoat, change of situation, and especially long journies on horseback, conducted as much as possible through a thin, sharp, dry air, will seldom fail of removing the complaint.

But,

But, on the contrary, if the cough, at the same time that it is fatiguing to the breast, should continue dry, husky, and without expectoration, provided there is reason to hope that no tubercles are forming, or yet actually formed, there is not perhaps a more efficacious remedy for it than half a drachm of gum ammoniacum, with eighteen or twenty drops of laudanum, made into pills, to be taken at bed-time, and occasionally repeated. This excellent remedy, communicated by Sir John Pringle, has been found, in a great many instances, amazingly successful, and generally very expeditiously so; for it seldom fails to produce an expectoration, and to abate the distressing fatigue occasioned by the cough. In these circumstances the common remedy of half a drachm, or two drachms of balsamum sulphuris anisatum, taken twice a-day, on a little powdered sugar, or any other vehicle, is also very efficacious. Besides these medicines, a salutary revulsion may be made from the lungs by the simple application of a large plaister, about five or six inches diameter, of Burgundy pitch, between the shoulders. For the perspirable matter which is locked up under it becomes so acrid, that in a few days it seldom fails to produce a very considerable itching, some little tendency to inflammation, and, very frequently, a great number

ber of boils. This application should be continued (the plaister being occasionally changed) for three weeks, or a month, or longer, if the complaint is not sooner removed.

Of the HOOPING-COUGH, or CHIN-COUGH.

VARIOUS opinions have been entertained concerning the seat of this disease. Some have supposed it to be in the lungs, some in the stomach, and some in both; while others have contended that it is in the head of the wind-pipe or of the gullet. Dr. Butter admits, with Astruc, that the larynx and pharynx are affected in this disease; with Willis, that the lungs are affected; and with Waldschmidt, the affection of the stomach: but differs from these authors in not thinking any of the parts above-mentioned the principal seat of the disease. He is of opinion that the chin-cough derives its origin from some part of the intestinal canal; and this doctrine he endeavours to support by the following arguments. First, the nature of those habits most subject to the chin-cough. It chiefly attacks children; in whom it is well known that the intestinal canal is more irritable, and consequently
more

more easily affected, than any other part of their bodies. Secondly, from the nature and cure of the chin-cough; it being observed that those children are less violently affected with the disease who have an open belly. That vomits are most serviceable when they promote a gentle looseness, besides their emetic operation; and that patients labouring under the chin-cough bear the action of vomits much better than of purgatives. Thirdly, from the diseases consequent upon the chin-cough. The chief of these are the king's-evil and rickets; each of which derives its origin from an affection of the alimentary canal. Fourthly, from the periodical returns of the paroxysms. Here Dr. Butter runs a parallel between the chin-cough and intermittent fever. He thinks it the most probable opinion, that the latter of these diseases has its proximate cause in the intestines; and for this reason, ascribes to the former an origin likewise in these parts.

Dr. Butter's opinion concerning the seat of this disease, it must be acknowledged, receives great support from analogy. But to exclude the lungs and stomach entirely from any share in exciting the chin-cough, seems to be an assertion not sufficiently supported by facts. Dr. Butter observes, that the notion of the lungs being the seat of the chin cough is very improbable; first, because
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the generality of pectorals do more harm than good ; secondly, because pulmonary coughs, if not dangerous, and especially in young subjects, terminate much sooner than the chin-cough ; and, thirdly, because he does not know that the rickets or scrophula, though often the causes, were ever the effects of a pulmonary cough.

With respect to pectorals, it is certain that those of the attenuating kind are frequently advantageous in this disease ; an affect which would not naturally follow, were the lungs entirely free from a participation of the morbid cause. The benefit often observed from the application of blisters to the region of the thorax, may likewise be urged in defence of at least a partial pulmonary affection.

That the stomach is not the seat of the disease, Dr. Butter thinks probable from the absence of pain of that organ, sickness, faintness, &c. Besides, says he, we can never suspect any intermitting disorder of having its seat in the stomach, when we consider that vomits render obscure intermissions more distinct. But it may be answered, that the good effects which have been observed from the use of vomits in this disease afford room for opposing an opinion that wholly rejects the probability of a morbid affection of the stomach.

This

This author is of opinion, that the pre-disposing cause of the disease is an irritability of the nervous system; and the cure he proposes for the chin-cough is the use of hemlock, of the successful administration of which he minutely relates nineteen cases.

The true rule of giving this medicine, says he, is to begin with a very small quantity diffused in a watery vehicle. This mixture is to be given by little and little, so as to be finished in twenty-four hours, and to be repeated daily.

A small addition of the hemlock mafs should be made to the mixture every day, or every other day, till symptoms of relief appear.

You are then to continue that dose so long as it produces good effects.

When the medicine begins to lose its effect, you are to proceed in augmenting the quantity a very little, as before.

If any untoward, or contra-indicating symptom comes on, you can either give the medicine in less quantity, or discontinue it for a time, as may seem necessary.

To a child under six months, you may begin with half a grain of hemlock, dissolved in an ounce of spring water properly sweetened.

For a child from six months to two years old, the mixture may consist of one grain diffused in an ounce and a half of water.

For a patient from two to four years of age, two grains of hemlock in two ounces of water will be sufficient at first.

You may proceed in this manner, always allowing half a grain of hemlock in your first daily dose for every year of the patient's age till he is twenty.

After the patient is twenty years of age, you may always begin with ten grains of the hemlock mass for the first natural day's consumption.

It is not necessary to increase the vehicle of your medicine in the same proportion: it should be of such a quantity as not to be troublesome to swallow, while at the same time it sufficiently divides the medicine, so as not to feel thick in the mouth.

One ounce, and eight ounces of water being considered as the two extremes, there will be no difficulty, says Dr. Butter, in adjusting intermediate quantities to different ages, especially as no great accuracy is required.

Such patients as dislike a liquid medicine, may have the hemlock in the form of powders, boluses, or pills.

If the patient has not two stools a-day, it will be proper to add a sufficient quantity of magnesia, or polychrest salt to the mixture.

Adults, for the same purpose, may use senna-tea, or polychrest salt, or fifteen or twenty grains of the aloetic pills.

As the stomach and bowels are very weak in this disease, the diet should be light, and of easy digestion. Little or no animal food should be allowed. All fermented liquors are improper. The most suitable diet is small broths, milk, plain puddings, gruel, toast and water, and the like. If the patient is an infant on the breast, the best food is the nurse's milk, especially if it purges.

Such is the idea of this disease, and such the therapeutic process, with which we are presented by Dr. Butter, whose method of cure has hitherto received no public sanction from the testimony of other practitioners.

For several years the whooping-cough has been most generally considered as proceeding, in part at least, from an affection of the stomach. In conformity to this opinion, it has been observed, that besides the use of emetics, stomachic medicines, joined to pectorals, are of great advantage in this disease.

In the Medical Observations and Inquiries, we are informed by Dr. Morris, that on considering the merits of the medicines which had been given with success in the whooping-cough, as far as they depend on their sensible qualities, he found that all of them were of the stomachic and deobstruent kind. Considering farther, that the singular efficacy attributed by many, from experience, to respiring the rank atmosphere of a goat or a fox; reflecting likewise on the great analogy between the whooping cough in children and intermitting fevers in adults; and finally being assured from the sudden and perfect apurexia, that the cough was partly spasmodic, it occurred to him that castor and the Peruvian bark deserved a trial in it, and even promised success. Accordingly, to three of his own children who were ill of this disease, he gave eight grains of castor, and fifteen grains of the Peruvian bark powdered, with three spoonfuls of simple alexeterial water, every four hours. In about four days the whooping and retching were considerably abated, and in a few days more entirely subdued in the two youngest. The eldest did not get rid of the whooping perfectly for near a fortnight; but the intervals were vastly longer, and the whooping only trifling, without anyretchings, in less than a week. The
cough

cough continued some time longer, but was reduced to a state of an ordinary cold.

Another boy about ten years old had the hooping-cough so violently, that he vomited blood frequently every day. He had taken balsamics, and been twice blooded, without any relief, before Dr. Morris saw him. The Doctor ordered him nine grains of castor, with an ounce of the common decoction of the bark, four times a day. In three days the hooping and retching were abated; he ceased vomiting blood, and in ten days more his cough was entirely cured.

A boy nine years old had the hooping-cough, attended with violent retchings, and a great difficulty of respiration. As he refused the bark in every shape, the Doctor ordered him nine grains of castor, and twelve of the pulvis contrayervæ compositus, to be taken in three spoonfuls of simple alexeterial water, with ten drops of tincture of castor every four hours. At the same time a blister was ordered to the neck. In three or four days the hooping and retching were subdued, and in less than a fortnight the boy was perfectly cured.

To these cases Dr. Morris subjoins an observation, tending to confirm the analogy between the hooping-cough and intermitting fevers. It is,

that autumnal hooping-coughs frequently renew their attacks early in the succeeding spring, though apparently cured long before. This he experienced in his own and two other children. He treated them with castor and bark as before, and they soon were perfectly cured.

In the cure of the chin-cough, Dr. Fothergill informs us, that he has experienced good effects from the following antimonial medicine, which, though not a certain cure in all cases, appears to be as useful a medicine in this distemper, as any we are yet acquainted with.

R Pulv. e chelis cancror. 3fs.

Tartar. emetic. gr. ii.

Accurate misceantur.

The intention of the testaceous powder, in this case, is chiefly to make the emetic tartar divisible into very small doses with precision, and without difficulty. This proportion was fixed upon, as the whole is divisible without a fraction, each grain of the powder containing one sixteenth part of emetic tartar.

One grain, one grain and a half, or two grains of this composition, says Dr. Fothergill, may be added to five or six of any testaceous powder, and given in a small spoonful of milk and water, in the forenoon between breakfast and dinner, to a

child of a year old. If this quantity does not prove sufficient to excite vomiting, the dose should be increased the next day to such a quantity as will produce the effect ; and in this manner it is to be daily repeated about the same hour.

The Doctor prefers the time between breakfast and dinner, for administering this medicine, on two accounts : first, because, if the puke is given early, the stomach being empty, a straining too great to be borne without detriment, might be occasioned. Secondly, was it given in the evening, the child would perhaps be robbed of too great a quantity of nutriment. Children's breakfasts, he observes, are for the most part soon digested, at least, so much nutriment is taken up in a short time, as that much inconvenience cannot ensue from the loss of aliment.

At night, when the fever is vehement, half the former dose of antimonial powder is given, with a few grains of nitre, and the *pulvis contrayervæ compositus* ; which generally causes a gentle perspiration, and takes off some part of the moisture which might otherwise have increased the irritation and oppression of the lungs.

In most cases, and in every stage of the disease, Dr. Fothergill has trusted chiefly to this process; seldom having occasion either to bleed, or use any other kind of evacuation, unless to procure

a stool or two daily, if the belly be not opened by the medicine.

In this case, it is observed, a proper dose of magnesia, given at bed-time, with the antimonials, seldom fails of answering expectation.

Dr. Fothergill informs us, that, sometimes no very manifest advantage appears to be gained by this process in several days; but if no material inconveniency arises, it will be right to proceed.

The first symptom of amendment usually is, that the fits of coughing become less frequent, the fever abates, and the breathing is not so difficult. The paroxysms however do not seem to lessen much, in point of violence, for some days; but at length the cough decreases, and every other symptom abates.

The child is then directed to take the puke only two days successively, and intermit the third. It will soon become sufficient to take the powder every other day; and afterwards once or twice a week, till the cough is entirely gone.

During this process the patients are ordered to drink asses-milk, to eat of the lightest meats sparingly, and likewise of broth and milk in any shape. Quantity is strictly to be regarded; for the more and oftener the stomach is filled, to the least degree of oppression, the longer the disease continues, and with greater violence.

Expe.

Experience has for several years confirmed, that to empty the stomach is of great advantage in the hooping-cough; on which account, oxymel of squills and ipecacuanha have been much used in this disease. The abovementioned medicine, therefore, is given to answer an indication which has been generally pursued. Though a powerful diaphoretic, it is more antiphlogistic, and less irritating in general, than either the oxymel or ipecacuanha; yet operates with equal certainty, and perhaps more energy.

It may be proper to observe, however, of the preparation abovementioned, that it does not retain its efficacy a long time; a change which is supposed to arise from the tartar being deprived of its acid, by the absorbent powder. On this account it ought to be mixed in a small quantity at once, and be kept perfectly dry; particular care being also taken to have the emetic tartar prepared by a skilful hand.

Though this medicine has proved successful in many cases, Dr. Fothergill would not be understood to suppose, that it will alone complete the cure of the hooping cough, at all times, and under all circumstances. Cantharides, the bark, musk, castor, &c. may be indicated in particular cases, especially in peculiar epidemic constitutions.

Of

Of the PLEURISY and the INFLAMMATION of
the LUNGS.

ALMOST all medical writers have made a distinction between the pleurisy and peripneumony; and Sir John Pringle, in the first editions of his valuable observations, followed the general custom; but he afterwards became convinced that we ought to consider these two distempers as one, in which the lungs are always inflamed, and often without the *pleura*; but the *pleura* never without the lungs.

These disorders are the most common form of the inflammatory fever. The pain attending them may be felt in any part of the chest, behind or before, as well as in the sides; and sometimes so low down, as to be mistaken for an inflammation of some of the abdominal *viscera*.

We must however not confound the inflammatory pains here mentioned with those spasmodic stitches, or flatulent pains, unaccompanied with fever, which are most common to people of weak and nervous constitutions.

During the first three, or four days of these acute diseases, blood ought to be freely drawn, unless a spitting be begun; in which case bleeding must either be wholly omitted, or so moderated

derated as to relieve the breast, without impairing the strength, or checking the expectoration.

In respect of the quantity and repetitions of bleeding, no precise rule can be delivered. Sydenham has specified forty ounces for the whole which men may, at a medium, lose in a pleurisy; but in many constitutions, especially when the state of the air disposes strongly to inflammatory disorders, this quantity, without blistering, might prove too small.

According to Sir John Pringle, a pleurisy, taken in the beginning, will often be cured by one large bleeding, and a blister laid upon the side affected. The objection to this practice, he observes, is founded on the stimulating quality of the cantharides; but the relief is so certain, that theory here ought only to be employed in accounting for the resolution of a spasm, or obstruction, by such a stimulus upon the skin.

Whether the blister ought to be applied in the beginning of the disease, or we should wait till the pulse has been softened by frequent bleeding, has been a subject of doubt; but, from his experience, Sir John Pringle has been led to prefer the former practice. For, in treating great numbers in this disease, he found no inconvenience from using the blister immediately after the first bleed-

bleeding, but, on the contrary, a more sudden and certain relief. Nay, frequently, when the surgeon was not at hand, this experienced physician has ordered the plaister to be applied directly to the side, and the patient to be bled afterwards; thinking it sufficient if the vein was opened before the cantharides had time to stimulate. These lateral blisters, as well as those for the back, were made of the size of the palm of the hand with the fingers.

Although the symptoms may disappear upon blistering, Sir John Pringle thinks it will be more secure to bleed again, unless a sweat supervening, and accompanied with relief from pain, should render this and other remedies unnecessary. But if the lungs are much inflamed, he observes that the cure cannot be so speedy; for though the first bleeding and blister should give ease, yet repetitions of both will be needful. Sometimes the stitch returns and fixes in the other side; but this being treated as the first, will also give way.

Wherever the pain be, Sir John Pringle applies a large blister to the part. If there is no particular stitch, but only a general oppression, he lays the blister between the shoulders; and afterwards, if the disease prove obstinate, first to one side, and then to another. It is observed, that

that blisters, not only when applied to the chest, but also to the extremities, tend to relieve the breast, and promote expectoration; whereas bleeding must be cautiously, if at all, used after the spitting appears.

Not only during the height of the inflammation, but throughout the state of expectoration, Sir John Pringle ordered the patient every hour a small tea-cupful of a pectoral infusion warm; and once in five or six hours, four spoonfuls of an oily mixture. The infusion consisted of the ingredients of the *decoctum pectorale*; to a quart of which was added an ounce of simple oxymel. The following was the composition of the oily mixture.

℞ Mellis (vel syrupi althææ) ℥vi. gummi Arabici in pulverem contriti ℥i. aquæ rosarum ℥ii. accurate subactis admisce invicem olei amygdalarum dulcium ℥iss. et aquæ puræ ℥vi.

But when the expectoration flagged, instead of the last mentioned medicine, he ordered as much of the oxymel scilliticum as the patient could take without sickness, or purging. Or, what he has often found more effectual, four spoonfuls once in six or eight hours of a solution of gum ammoniacum.

℞ Spermaie

℞ Spermaris ceti (ex vitello ovi quantum satis est soluti) ℥ii. lactis ammoniaci ℥vii. fyrupi croci ℥vi. misce.

He has likewise observed good effects from making the patient breathe over the steam of hot water; to which, when the phlegm is viscid, a small proportion of vinegar may be added with advantage.

If notwithstanding the expectoration, the patient complains much of a stitch, or of a difficulty in breathing, it is necessary to repeat venesection. But we must be careful not to weaken the patient without necessity, and thereby suppress the expectoration, which is the natural crisis of the disease. If a considerable quantity of thin, florid, spumous blood is spit off, we ought to draw more blood, quiet the cough with cool opiates, as diacodium, or the like, and give freely of proper acids, with soft cooling increffants. If, on the contrary, the matter expectorated be thin, gleety, and dark-coloured, it indicates the fluids to be in a putrefying dissolving state, and will therefore not bear a large evacuation of blood.

It frequently happens, as Huxham has observed on this subject, that the pulse, even at the very beginning, seems obscure and oppressed, irregular, sluggish, and sometimes intermitting, the patient

patient meanwhile complaining of great weakness and oppression, which would seem to contraindicate bleeding; and yet the load at breast, difficulty of breathing, great anxiety, and heat felt about the præcordia, strongly demand it. This, says he, often puzzles the young practitioner. But he ought to consider that so sudden a want of strength, spirits, and pulse, does not arise from a deficiency of blood, which cannot have been much exhausted by the short duration of the disease; but proceeds in fact from too great a quantity of that fluid oppressing the vessels. In such cases, therefore, blood-letting is so far from weakening, that it really increases the powers of nature.

There are, however, some kinds of the disease in which the patients will not bear large bleeding. This is particularly observable in persons of a scorbutic constitution, in whom the blood is always of a loose and dissolved texture, and seldom found buffy to any considerable degree.

The repetition of blood-letting, when the patients can bear it, ought to be practised the more diligently during the early state of the disease, as after the fourth or fifth day, bleeding has little effect towards preventing a suppuration, which happens sooner in the lungs than in other parts; the former being surrounded on all sides by
warmth

warmth and moisture, and situated so near the heart, acting on the inflammatory obstruction with constant and great force.

But Dr. Huxham observes, that if the pain, after having ceased a considerable time, either returns with violence, or seizes another part of the chest, it affords presumption that a new inflammation is forming, which indicates bleeding as much as the former, though not to the same degree. The quantity however must be determined by the strength of the patient and pulse, the violence of the pain, and difficulty of respiration; regard being also had to the colour and consistence of the blood, and the quantity and quality of the serum.

The same author farther remarks, that, in pulmonary disorders, bleeding in the foot is much less practised than might be expected, considering the experience of its great efficacy in spitting of blood from the lungs: he means after a proper quantity of blood has been drawn from the arm. Another observation is, that when the pulse and strength of the patient seem not to favour farther blood-letting from a large vein, and yet the oppressive, laborious, painful cough and suffocation remain very urgent, drawing off blood by cupping on the shoulders, &c. may be done with safety, and frequently gives exceeding great relief

lief in disorders of the breast, as well as of the head.

But a free and copious expectoration is the natural crisis of the disease; and this discharge is most effectually promoted by drinking freely of cooling, relaxing, and gently saponaceous diluents; such as thin whey, the barley ptisan with liquorise, figs, &c. with the decoction, or infusion of pectoral herbs, to which honey may be added.

When the disease terminates by resolution, or concoction, not only part of the impacted matter passes off by spitting; but also part of it is absorbed into the veins, and discharged either by hypostatic urine, or bilious stools; both which are greatly promoted by emollient laxative clysters. Care however must be taken not to throw the patient into a profuse diarrhœa, which will suppress the expectoration without relieving the disease.

Sometimes the morbid matter is critically translated to the lower parts, producing phlegmons, imposthumes, erysipelatose, or œdematous swellings, ulcers, &c. particularly in persons formerly subject to swollen or sore legs. On this account, a derivation of the humours to the legs, by tepid bathing, blisters, &c. has often been practised with success in severe pulmonic disorders.

In the course of expectoration, Sir John Pringle observes, a vomit has sometimes contributed

to discharge the viscid phlegm. Sometimes opiates were given, but with caution; for, as long as the pulse was hard, or the breathing difficult, or when watchfulness was owing to the fever, they did harm. But when the fever had ceased, and sleep was prevented by only a thin rheum falling on the fauces, or lungs, opiates, especially if joined to squills, not only gave rest, but promoted expectoration.

In the cure of the pleurisy, Sydenham particularly enjoined taking the patient out of bed every day, for the space of several hours, if his strength would admit of it; as in all inflammatory diseases, the warmth of the bed is found to have an exceeding bad effect. This injunction, Dr. Musgrave observes, almost all writers since the days of Sydenham have past over in silence. Boerhaave, he acknowledges, hints at it, but so slightly, that it is plain he laid no great stress upon it. Van Swieten mentions it expressly, and commends it, but without saying that he had ever seen the good effects of it. De Haen makes it a general rule in all fevers, to take his patients out of bed, and even to keep them in an erect posture for several hours. The practice of taking them out of bed, says Dr. Musgrave, if confined to the peripneumony and other inflammatory fevers, would have done him great honour; but he has
lost

lost the merit of it, by extending it to those of the nervous and malignant kind ; which, to say the least of it, is unsafe, and when combined with that other injunction of an erect posture, becomes particularly absurd.

Respecting Dr. Musgrave's own observance of Sydenham's method of practice, he informs us that he has tried both ways ; that he has cured patients whom he suffered to lie in bed : but that in those cases the symptoms have always run considerably higher, and continued much longer, than since he has adhered more exactly to Sydenham's method ; under which, he observes, the disease assumes so different an appearance, that he is confident no person who tries both methods, will hesitate to prefer that of Sydenham.

Of the INFLAMMATION of the LIVER.

SIR John Pringle has observed, that, with plentiful bleeding, one of the best remedies in this disorder, is a large blister laid over the part affected. Dr. Clarke, of Newcastle, informs us, that when venesection, the repeated use of cooling purgatives, and a blister to the seat of the

pain, have had no effect, he has, for some years past, exhibited mercury with the greatest success, in the same manner as recommended in the East-Indies. During the mercurial course he generally prescribes a sufficient number of the following drops, to be taken at bed-time.

R Tinctur. Thebaic. ʒii.

Vin. Antimon. ʒss. M.

He adds, that in this country, one case only has occurred in his practice, where the remedy failed, when administered before symptoms of suppuration appeared.

OF the INFLAMMATION of the STOMACH and INTESTINES.

IN these disorders, Sir John Pringle practised the same method as in the inflammation of the liver; nor has he known local blisters attended with any bad consequences, if after large bleeding, they were applied early in the disease. They were particularly useful in the ileus, or inflammatory colic; and sometimes answered in fixed pains of the bowels from spasms, without evident

dent marks of inflammation. They interfere however with the warm bath, which is also a material article in the cure.

Next to bleeding, Sir John Pringle observes, that the principal part of the cure depends upon opening the body, which formerly he attempted by clysters, and by giving every hour a pill of aloes, soap, and calomel ; but afterwards he changed that practice for more lenient purges. In this intention he has given every hour, the bulk of a nutmeg of an electuary compounded of half an ounce of the electarium lenitivum, two drachms of the flowers of sulphur, and one of cream of tartar, with some syrup. But of late he has kept more to the use of the sal catharticus amarus, recommended to him by Dr. Heberden, who had seen several instances of its good effects in small but repeated doses. Two ounces of this salt being dissolved in a pint of water, Sir John ordered two spoonfuls to be taken every half hour, or one spoonful at shorter intervals, or as long as the patient's stomach would bear it, or till it had excited two motions. Sir John observes, that, though this medicine has a disagreeable taste, the stomach will often retain it when more grateful liquors are rejected ; a circumstance, he adds, which might induce one to believe, what has been said of other neutral salts,

that they possess some degree of a sedative, as well as a laxative quality. Whether he directed the electuary or this solution to be given, he ordered a clyster, purely loosening, to assist the operation. When he suspected that the obstruction was owing to hardened fæces, at first he used clysters of oil only, but at all other times the following :

R Decocti commun. pro clystere ℥x. electarii lenitiv.
olei olivar. ana ℥ii. M.

But when the stomach was so much disordered as to throw up either of the above laxatives, he then joined some opium to a stimulating purge, in the subsequent form :

R Extracti cathartic. gr. xxv. Extracti Thebaic.
gr. iſs. mercurii dulc. sublimat. gr. v. M. fiant
pilulæ x.

These are intended for a dose, to be given after vomiting, when the patient complains least of sickness. The smaller the pills are, they will have the better chance for being retained. About twelve hours afterwards, or when the force of the opium begins to go off, he endeavoured to promote the operation of the purge, by the solution of the salt, as before ; and in a few hours from that time, still continuing the solution, he ordered the clyster to be repeated.

After

After procuring stools, most of the danger being over, he followed pretty nearly Sydenham's method, in regard to the rest of the disease; giving laudanum at bed-time, and in the mornings, as much of the solution, or of some other laxative, as was sufficient to open the body freely, till the hazard of a relapse was past.

Sir John Pringle, from his great experience, confirms an observation formerly made, viz. that the ileus is for the most part attended with a sensible degree of fever, as well as with vomiting, gripes, and costiveness; but, besides that there are cases exempt from vomiting, there are others in which the fever is scarcely perceptible, when the patient feels little pain, and is not altogether costive. For when, in such cases, the patients died, the bowels have been found not less mortified than after the most distinguishing marks of the disease. In such circumstances, the only presages of danger are to be taken from the tension of the belly, and a dull pain upon pressing it, from the lowness and inequality of the pulse, and from a change in the countenance.

Of the DYSENTERY.

THE symptoms of the dysentery, besides a feverishness, are, a disorder at the stomach, and wind in the bowels; small, but frequent stools of a shining and frothy matter, a tenesmus, and gripes. Blood mixed with the fæces is a common, but not a constant symptom; many patients being free from it, at least in the beginning of the disease, whilst others discharge blood with their stools, from various causes, without a dysentery. This disorder, however, being for the most part accompanied with some evacuation of blood, has received the name of the bloody flux.

Sydenham observes that the dysentery sometimes begins with a rigor, succeeded by heat, but oftener with gripes without any feverish sensation. This latter remark, however, in the opinion of Sir John Pringle, is not strictly true. For, says he, though the patient himself may not mention any feverish symptom, yet upon examination we shall find, that alternate sensations of heat and cold, lassitude, loss of appetite, and the like febrile affections have generally been more or less the forerunners of the disease. Frequently, the beginning of a flux will have the
appear-

appearance of the autumnal fever ; the patient being feverish, with a disorder in the stomach and bowels, for three days before the purging comes on ; but after that period, the fever sensibly declines. Sir John Pringle has observed, that at other times, upon fatigue and exposition to cold, during the dysenteric season, the men would be more suddenly seized with the flux, but seldom without some degree of fever.

The same judicious author remarks, that besides the fever abovementioned, the patient is liable to one of a low and more dangerous kind. For the most part he has observed this to be brought on by neglecting the disease in the beginning, or by having recourse to opiates and other astringents before evacuations. Sometimes, though seldom, he has seen the same kind of fever accompany the flux from the first, and terminate in death, without any obvious error being committed either in the regimen or medicine. But the most fatal sort of fever, which so often attends the dysentery of the army, though not essential to it, is the hospital or jail distemper. This fever, when combined with the bloody flux, generally proves mortal.

At first, the stools are for the most part copious and excrementitious ; but the next day, or soon after, they become small, watery and slimy,
and

and are attended with gripes and tenesmus. From this time till the patient begins to recover, formed fæces are almost never seen, except when a purge operates briskly.

Sydenham, in his description of the dysentery, has mentioned mucous stools; but Sir John Pringle observes, that he might also have mentioned a watery humour, which is generally mixed with the slime. This serum, says the latter, is perhaps one cause of the irritation, and descends from the higher parts of the intestines, whilst the mucus is mostly secreted from the rectum in straining.

Streaks of blood are supposed to denote the opening of some small vessels at the end of the rectum; but a more intimate mixture is a sign that the blood comes from a higher source. Sir John Pringle observes, that this hæmorrhage, which alarms most, is the symptom least to be dreaded. For though the oozing be constant, the quantity of blood discharged, except in a few cases, is inconsiderable. He also remarks, that neither ought we to be alarmed at the loss of so much of the ferous humour; for the amount of the whole is not nearly so great as in a common diarrhœa. Yet the frequency of the motions has given a false indication for the early use of astringents, whilst, in fact, the passage through the

the intestines is already so much obstructed, that to restore and preserve it, is the most essential, as well as the most difficult part of the cure.

Besides the substances abovementioned, there are others less commonly seen in the stools, such as round worms, balls of hardened excrements, and some smaller bodies of the colour and consistence of suet. Abrasions of the villous coat of the intestines, are also enumerated by some writers; and flatulence in the first passage is likewise a common and very troublesome symptom.

In this disease the stools are distinguished by a certain smell, different from that of common excrements. It is described to be faint, and not rank at first; but towards the end, when the bowels begin to mortify, the foetor is cadaverous and intolerable. The stools are always preceded by sharp gripings, and succeeded by some respite; but the motions being so frequent, the patient can have no considerable ease, unless the spasms be removed by opiates, fomenting the belly, raising a sweat, or by evacuating the acrid and irritating matter with a purge.

In bad cases of the dysentery, a *prociencia ani*, and strangury, have been observed. The former arises from the violent straining; and the latter from the inflammation spreading from the rectum to the neck of the bladder,

When

When this disease has been very frequent, Sir John Pringle found it always to be in some degree infectious; which is more especially the case in military hospitals, and in the houses of the poor, who want the means of cleanliness.

The same writer observes, that there are few acute distempers less beholden to nature for a cure, or attended with more deceitful indications than the dysentery. The hæmorrhage seems to require repeated bleedings; the flux, strong astringents; the pain of the bowels, constant opiates; and yet unless these remedies be used with caution, they tend more to confirm than to remove the disease. On the other hand, emetics and purges have been either wholly condemned, or too sparingly used; yet later experience shews them to be the chief means of cure.

In treating of the cure of the dysentery, Sir John Pringle distinguishes the disease into three states, viz the first, whilst it is recent, or whilst the sick can easily bear evacuations; the second, when the distemper is of a bad kind, or has continued long, and has much impaired the strength, inflamed the intestines, and brought on a hectic fever; and the third state, when the patient, though recovering, is kept low by a tenesmus, or some other remains of the disease, or becomes subject to frequent returns of a looseness, from the weakness of the bowels.

I. In

I. In the first state, he generally began with a moderate bleeding ; but in weakly habits, and in contagion, with few feverish symptoms, he omitted this evacuation. In the evening of the same day he gave an emetic. In the beginning of his practice in the army, he used the *vitrum ceratum antimonii*, so much recommended in the Edinburgh Medical Essays, and which he had formerly observed to be the best medicine for relieving both the stomach and bowels. On account of the roughness of its operation, however, he afterwards relinquished it for the powder of ipecacuanha, given in the quantity of a scruple, to which were generally added one or two grains of emetic tartar. Whether he gave a weaker or a stronger vomit, he observed it to be more successful when it operated likewise by stool. This effect was the more certain, when instead of the usual quantity of ipecacuanha, five grains only were given at once, and repeated at an hour's distance, twice or thrice, till a purging was brought on, which usually happened soon after the third dose. Fifteen grains exhibited in this manner were commonly sufficient. When the stomach was chiefly affected, he gave twenty grains of the ipecacuanha, either by itself, or with tartar emetic ; but if the person complained more of gripes than sickness, he directed the
powder

powder to be divided as above, with a view to its more certain operation upon the bowels. In one or other of these forms he ordered the emetic on the first day of his seeing the patient, whether the latter had been bled or not. If the full quantity was given, the operation was assisted in the common way, with repeated draughts of camomile-tea. But if the small doses were used, the patient drank nothing till the medicine wrought downwards, when more gruel was given, to promote its purgative effect.

When the stools were large, and the patient fatigued with the operation, no medicine was given the following day ; but if he had taken the emetic all at once, so as only to clear his stomach, or if the divided powder had wrought weakly by stool, a purge was ordered next morning. This consisted of five grains of calomel, with five and twenty or thirty of rhubarb. At first Sir John Pringle gave the rhubarb without any calomel, and usually about half a drachm ; but afterwards he found it necessary either to give double that quantity for a dose, or to join the calomel to thirty grains, in order to procure a thorough passage. He observes, that we are to attend less to the dose than to the effects, which are not to be judged by the frequency, but by the copiousness of the stools, and the relief which the patient finds

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from

from the gripes and tenesmus after the operation; and that as, on the one hand, the physician ought to avoid all the rough and stimulating purges, so, on the other, he is not to spare those of a lenient kind, especially rhubarb, which is commonly underdosed. In respect of rhubarb he adds, that he has not seen it in this disease have so good an effect by itself, as when joined with well prepared calomel, by which means it becomes easier in its operation.

At night, after the purge, Sir John Pringle usually gave for the first time an opiate, consisting of ten grains of the *pilulæ saponaceæ*, with two, or sometimes three grains of *ipécacuanha*, either in a bolus or draught; for having found that some soap-pills had passed undissolved, he had disused the pilular form in all weaknesses of the intestines. Formerly he joined to the opiate a small quantity of the *vitrum ceratum antimonii*, in order to promote perspiration; but when he ceased to use that medicine as an emetic, he omitted it here also, and supplied its place with the *contrayerva* root.

Respecting opiates in the dysentery, he observes, that it were better perhaps never to give them, than that they should be administered before the first passages are cleared. For though from the beginning they never fail to give some
imme-

immediate relief, yet by confining the wind and the corrupted humours, they tend to fix the cause, and to render the disease more obstinate. This remark deserves the greater attention, that it does not correspond with the practice which has been recommended by Sydenham.

As to the best kind of opiate Sir John made no particular observation, and he has specified the *pilulæ saponacæ* only because he preferred that composition to the simple *extractum Thebaicum*, on account of there being less hazard of an error in the weight.

When the first two days had been employed in the manner above described, Sir John Pringle ordered no medicine on the third, unless the sick still complained of gripes, in which case the opiate was repeated at night. But on the fourth day, if any bad symptoms remained, he directed the *ippecacuanha* to be given once more in divided doses ; or, if the patient expressed a great aversion to a drug which had made him sick before, a purge was substituted, and in a greater dose, if the former had not operated sufficiently. The largest of this kind, which he used in the dysentery, consisted of thirty grains of rhubarb with eight of calomel.

At this period, and sometimes sooner, the cure of the disease was generally completed. But if
any

any relics of the distemper were perceived ; if the patient had committed any error in diet, or had exposed himself to cold, so as to relapse, recourse was had to the remedies formerly used, viz. either the purge, or the ipecacuanha, according as the one or the other had been found most advantageous by the patient before. In short, these evacuants were the chief medicines to which Sir John Pringle trusted in this stage of the disease.

For purging, at least in the beginning of the dysentery, most of our physicians employed in Germany, during the late war, seem to have preferred salts and manna (to which they frequently added some oil) to rhubarb alone ; but in different constitutions and circumstances, different purges may be proper.

After clearing the first passages in the manner described, Sir John Pringle generally endeavoured to finish the cure by combining purges with opiates, in such a manner as to keep the body open, and at the same time to abate the gripes ; but in this rational indication he did not always succeed to his wish.

II. In the second stage of the dysentery, though there be often more of a hectic fever than at first, and though a mortification be threatened by the retention of the putrid matter, and the continuance of the inflammation, yet, so far as Sir John

Pringle has observed, bleeding is not the remedy, but laxatives (such as have little irritation, and yet are sufficient to prevent an accumulation of the sharp humours) with those medicines which either sheathe the bowels against the acrimony, or procure a respite from pain and spasms, until nature has acquired sufficient strength for the cure.

At this period of the flux, likewise, finding emollient and anodyne clysters to be of considerable benefit, he used a decoction of linseed, or of starch, or fat mutton broth, from four to eight ounces, according as a smaller or larger quantity could be retained. When the motions were so frequent, that the patients could not keep those clysters, there was added to each from twenty to fifty drops of the tinctura Thebaica, or as much as was necessary for abating the irritation, without too much affecting the head. But in bad cases the motions were generally so frequent, that notwithstanding the laudanum in the composition, one clyster at bed-time was often insufficient for giving the patient repose through the night; and in this circumstance, he either took another, or the opiate draught.

Sir John Pringle observes, that for mitigating the gripes and expelling the wind, we are not to use the warmer carminatives; at least he has never

known them succeed. Opiates, he adds, afford immediate relief, but they only palliate, and often augment the cause. He met with no remedy that very sensibly answered this intention. The best was fomenting the belly, and drinking camomile-tea. The fomentations were made of the common herbs, with the addition of some spirits. The flatulent pains would sometimes affect the side, as in a pleurisy, but a laxative medicine, or the fomentations, removed them without bleeding.

When the patient complained of a heart-burn, and a sourness in the stomach, Sir John Pringle ordered from time to time four spoonfuls of the *julepum e creta* ; and when at the same time the gripes and incessant motions required some palliative, he dissolved two grains of the extractum Thebaicum in a pint of that julep ; of which mixture four spoonfuls were given after every other liquid stool.

At other times, when there was no complaint of an acid, but of gripes and frequent motions, he endeavoured to blunt the acrimony, and in some degree sheathe the bowels against the irritation, by food of a mucilaginous quality, and by giving for drink a decoction of starch with gum Arabic, seasoned with some simple cinnamon water and sugar. A pint of this liquor commonly

contained three drachms of starch with half an ounce of the gum. For this purpose preparations of wax have also been used with success.

When the flux continues till the strength is much impaired, and the pulse sinks, whilst the hectic heats remain, the danger is great, though there still be hopes, as long as there are neither involuntary stools, nor aphthæ, nor a hiccup, and when the patient does not complain of great lowness, and oppression of the *præcordia*. If he does, the case is exceeding bad, and hardly admits of palliatives; since opiates have very little effect, either in easing the pain, or checking the frequency of the stools.

When the dysentery is complicated with the hospital fever, a recovery of the patients is seldom seen. If there was reason for medicine in such cases, Sir John Pringle commonly used a composition of the bark with snake-root, to which were added a few drops of laudanum. At other times, especially when the pulse was sunk, he has experienced the good effects of the following decoction, of which four spoonfuls were given every four or five hours.

R Rad *Serpentariæ Virginianæ* ʒiii. coque ex aquæ
fontanæ ʒxii. ad ʒviii. adjecta sub finem coctionis
Theriac. Andromach. ʒi. cola.

When

When the patient is worn down with continual motions and a tenesmus, antiseptic clysters have frequently been used with good effect.

In both these stages of the disease the diet was nearly the same. It consisted chiefly of rice or barley-gruel, sago, panada, or some light pudding. All animal food was found improper. The drink was rice or barley-water, toast and water, or the decoction of calcined hartshorn.

The root of salep has been accounted specific in this distemper; but not having been used in the hospitals in the former war, Sir John Pringle had no opportunity of making any observations upon it. He was informed by Mr. Triquet, a surgeon of the army, that in the hospital belonging to one of the regiments of guards, no kind of diet had agreed so well with the men who were ill of fluxes, as a mess made of flour boiled in milk, sweetened with sugar, and taken for breakfast and supper. But though all these substances be of the softest and least heating kind of food, Sir John has observed, that for the most part the patient could not take any of them, nor swallow any of the liquors mentioned above, nor indeed any other, except plain warm water, without being sick or griped immediately after. It was therefore, he adds, natural to conclude, that until the stomach and bowels were able to bear

some stronger nourishment without pain or sickness, nothing but water should be given for the whole diet. In this opinion he was confirmed, by some observations on the dysentery, communicated to him by M. de Senac, physician-general to the French army ; who having good evidence for believing, that several had been cured of the disease by taking nothing but large quantities of warm water, for five or six days together, had successfully made the experiment upon himself, and upon fourteen more who submitted to that regimen. M. de Senac added, that after having tried other methods, he at last fixed upon the following, by which he had made numberless cures. This, after bleeding, and a vomit of tartar emetic, consisted chiefly in giving one grain of that antimonial preparation, dissolved in a pint of common whey, or chicken-water, in divided draughts, every day, for food, drink and medicine, till the patient recovered. His intention was to preserve a free passage from the stomach to the rectum, by the mildest laxative, which he found was best answered by this minute quantity of the emetic. But as the emetic tartar is not every where made to the same standard, it is to be understood that the laxative dose must vary according to the preparation of that medicine. In case the gripes proved

proved more obstinate than usual, notwithstanding the evacuations, M. de Senac endeavoured to abate them, by giving some syrup of white poppies at bed-time. Sir John Pringle informs us, that though this course (in which the lowness of the diet is a material circumstance) was not only agreeable to his sentiments upon the nature of the disease, but was recommended to him by a physician in whose judgment and veracity he had entire confidence, yet he had never been able to avail himself of the communication, on account of the difficulty, or rather the impossibility of making the people of this country submit to so low a diet, even for a few days.

III. We now proceed to the third stage of the disease, in which the patient, though apparently recovering, is kept low by a tenesmus, almost the only complaint; or by frequent returns of a looseness, from the weakness of the bowels.

Sir John Pringle observes that the tenesmus is not always owing to one cause. Sometimes he has known it occasioned by hardened fæces, which coming away in small quantities, for several days together, has supported a constant irritation. The discharge of those *scybalæ* he has hastened by an ounce of Glauber's salt, dissolved in half a pint of water, and given at different

draughts in the morning. If one or two such potions had no effect, he imputed the continuance of the tenesmus to an excoriation, or some sore of the *rectum*, by which the part became so tender, as to be irritated by the humours of the intestines, though those might not be more acrid than natural. For medicine, if the tenesmus was great, and the motions frequent, he still had recourse to opiates, especially anodyne clysters. In every case of great irritation, during the state of the disease, he formerly used the decoction of starch with gum Arabic, but afterwards more frequently prescribed mutton suet, prepared in the following manner. “Take two ounces of fresh suet, and a pint of new milk, set them over a slow fire, and let them be stirred till they boil; then add a heaped spoonful of starch finely powdered, and mixing it well with the rest, let them boil a little together.” This preparation, he adds, may be sweetened, or not, according to the taste. The above quantity, or even the double, may be consumed in a day; and it will have the better effect if the patient takes no other food. He has sometimes attempted to give this mess in the first and second state of the disease, but it never answered; for at those times the stomach was too much disordered to bear it.

The frequent returns of purging, Sir John observes, we are not to consider so much as relapses into the dysentery, as into a diarrhœa or white flux; owing to the weakness of the bowels. Whenever therefore the patient was in this condition, a scruple of ipecacuanha was given him, and the next day he was put upon a course of styptic medicines. In this intention the following mixture was commonly prescribed,

R Extract. ligni Campechensis ℥iii. solve in aquæ cinnamomi spiritus ℥iss. admisce aquæ fontanæ ℥viii. & tincturæ Japonicæ ℥ii.

Of this the patient took two spoonfuls once in four or five hours, and sometimes also an opiate at bed-time. Sir John Pringle informs us, he has understood since, that in one of the hospitals of this city, where the above formula has been adopted for old and obstinate diarrhœas, and for dysenteries not yielding to the common methods, they order at the same time a bolus to be taken every night, consisting of a scruple of Philonium Londinense, and two grains of ipecacuanha, and that they have been generally successful.

Degner, in the epidemic flux he describes, has recommended the *Simaruba*, not only as a mild astringent, but as a corrector of the bile, a depravation

vation of which humour he supposed to be the cause of the epidemic. Sir John Pringle informs us, that he had made a few trials of this medicine, which were mostly in its favour; but from none of them could he discover any of the salutary effects of the Simaruba before the third state. Dr. Huck, who had often used it in America, tells us, he observed that it never answered in the beginning, nor even in the advanced state of the dysentery, till the gripes and tenesmus had in a great measure ceased, and till the blood had disappeared in the stools; but that when only a looseness remained, he had often found it successful. This was his formula:

℞ Corticis radicis Simarubæ zii. vel ziii. coque ex aquæ fontanæ sesquilibra ad libram, & cola.

This quantity was given every day in several draughts. He began with the weakest decoction, and when the patient's stomach could easily bear it, he ordered the strongest. Dr. Huck farther observed, that unless the sick found themselves sensibly better within three days from the time they began to use the medicine, they seldom afterwards received any benefit.

Sir John Pringle has also known good effects from small doses of ipecacuanha joined to an opiate, such as two grains of that powder with
fifteen

fifteen of the *Philonium Londinense*, taken twice a day. Others have received benefit from ipecacuanha alone.

Dr. Huck informs us, that a foldier, after getting over the inflammatory ftate of the dysentery, was much reduced by a white flux of the lenteric kind; for which having ufed feveral aftringents without effect, he was at laft cured by taking fix grains of ipecacuanha in powder, every morning fafting. The patient was puked by the medicine for the firft three or four days only, but afterwards it produced no ficknefs.

During the aftringent courfe Sir John Pringle advised that the men fhould be ftill attentive to their diet, abftaining from greens, fruit, malt-liquor, and acids. In this ftate he has allowed them fome flefh meat; and for drink, water mixed with a little rum or brandy. To the officers and private patients, he has allowed fome wine when they were very defirous of it. But from farther experience, he believes that at this period of the difeafe, the cures would be both more frequent and speedy, could the patients be perfuaded to abftain altogether from animal food, and from vinous and fpirituous liquors; for when no aftringents have availed, he has frequently known a cure obtained by a milk and farinaceous diet, without them. Therefore when the
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astringents fail of success, especially when the pulse is quick, and the patient complains of inward heat, Sir John Pringle first gave a vomit of ipecacuanha, and then began this regimen, which he continued till hectic symptoms had ceased, and the bowels had recovered their tone. During this course, he seldom had occasion for medicines, excepting the chalk-julep, which he employed for correcting the strong acid so incident to relaxed stomachs. Sometimes he added an opiate at night to procure rest; but after a few days he generally laid both aside. All that he requires is a strict perseverance in diet, with an occasional repetition of the vomit, upon any new disorder of the stomach, or greater laxity of the bowels.

In the regimen of convalescents, Sir John Pringle, as has already been observed, prohibits the use both of fermented liquors and spirits. The chief drinks are the decoctions of barley, of rice, or of calcined hartshorn, toast and water, or milk and water. Pure air is of great consequence in the cure of this disease; and much benefit has also been experienced from wearing a flannel waistcoat next the skin.

Of the DISEASES of the LIVER.

FOR an account of these diseases, including those of the gall and gall ducts, I shall again have recourse to the remarks of an eminent contemporary physician.

Dr. Heberden observes, that the obstruction of the gall ducts from gall stones is the most common, but the least dangerous, of all liver complaints; for it admits more relief from art, and is often surmounted by the unassisted efforts of nature.

It seems probable that gall stones are generally formed in the gall bladder. At least, this viscus, or the ductus choledochus communis, is the place in which they are most frequently observed; and often, when the liver is so perfectly sound, as apparently to have had no share in producing them.

The usual symptoms of the gall ducts being obstructed are loss of appetite, a sense of fulness in the stomach, sickness, vomiting, languor, inactivity, sleeplessness, and, if the obstruction be continued for a few days, a very great wasting of the flesh. These complaints are remarkable in the obstructed gall ducts, but they likewise belong to many other diseases. The most distinguishing signs of this malady are a yellowness of
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the eyes, skin, and urine, with a want of this colour in the stools. Nor is this disorder much less certainly denoted in some patients, before the yellowness appears, by an exquisite pain about the pit of the stomach; the pulse being at the same time in a natural state. By an attention to these two circumstances, it is not difficult to foretel the outward yellowness, in many cases, some days before it appears. The slowness of the pulse will almost always distinguish this pain from one which is occasioned by an inflammation of the bowels.

But this pain, which in some patients is hardly supportable in the jaundice, rises in others only to a slight uneasiness about the region of the liver, or is not felt at all. This, says Dr. Herberden, may be owing to the different parts of the gall ducts, in which the stone happens to lodge. There is great reason to believe, that the liver itself has little or no sense of feeling; and it is probable the gall ducts not more. But every day's experience evinces, how exquisitely this sense belongs to the intestines. It may therefore be, that little or no pain is felt, while the stone is forcing its way through the gall ducts, till it arrives at the extremity; but in stretching that part which is inserted into the duodenum, the intestine is by a large or angular stone distended,

or

or irritated to a degree, which may account for all the torture that ever attends the jaundice. This pain seldom lasts without intermission above two or three days; and wherever it is felt, it not only comes before the yellowness, but is sometimes unequal in violence. Sometimes it entirely ceases, and then rages afresh throughout the whole fit of the jaundice.

Dr. Heberden observes, that there sometimes appears reason to suspect a stone in the ducts of the liver from the presence of all the other symptoms, though there be no yellowness in the eyes or skin; which suspicion has been verified by the voiding of a gall stone, with the relief of all those symptoms; or, after frequent returns of them without any discoloration of the eyes and skin, by having one of those fits end at last in a jaundice: whether it be, that in those cases, the stone is of such a form, as not perfectly to fill up the aperture, or that the violent efforts of vomiting force some bile, without dislodging the stone, between it and the sides of the duct.

As a gall stone may sometimes be suspected without any marks of it in the eyes or skin, so the yellowness is said to be found without any gall stone, or preternatural consistence of the bile. It has been supposed that an infarction of the duodenum may be great enough to hinder the
efflux

efflux of the bile; but this, Dr. Heberden observes, may be questioned, if we reflect that the duodenum has seldom any solid contents in it, and that if it should be so plugged up by them, or compressed by the distension of the other intestines, as to hinder the passing of the bile, it would for the same reason be incapable of admitting any thing into it from the stomach, which is a supposition hardly countenanced by experience.

The size of the gall-stone, and the consequent duration of the jaundice, are extremely various and uncertain. In some patients the jaundice will disappear in two or three days; in others, Dr. Heberden has seen it continue near a twelve-month, before the gall-stone could pass into the intestine, or fall back into the gall bladder. Nor, he observes, will this long obstruction of the natural course of the bile have any lasting ill effects, or hinder the patient from being soon reinstated in perfect health after the removal of the obstruction. He has known the jaundice return after more than twenty years in some persons, who have enjoyed good health in the intervals of the fits.

There is no limit to the possible size of the gall stones, except the capacity of the gall bladder, and they are found of all intermediate magnitudes between this and the minutest dust. When the gall stone becomes too large to
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enter the duct, it is not improbable that its lying in the cystis may be attended with some inconvenience, though it must be of a nature very slight. For Dr. Heberden observes, that many persons have been opened after their death, in whom a very large stone, or many small ones, have been found, without their ever having had any complaint which could be confidently imputed to this cause.

Dr. Heberden remarks, that it is frequently recommended to the attendants upon icteric patients to examine their stools, in order to find the gall stones, and there can be no reason to hinder them from so doing. But the other signs of this disorder are so certain, that the finding of a gall stone will add very little to the evidence for the nature of the disorder, and will be of no use to the cure. For whether a gall stone be found or not, the method of cure must be continued as long as the symptoms remain, by which alone the physician must be directed. Let there be ever so many gall stones found, if the patient be not relieved, it must be supposed that more remain, and consequently the same medicines must be continued. On the other hand, though none should be found, if all the complaints cease, the probability is, that the stone has fallen back into the cystis, and therefore little or nothing more is to be done.

A very troublesome itching, but without any eruption, is often observed in the jaundice. This is supposed to be owing to the irritation of the skin from the acrimony of the bile mixed with the blood: but it is not easy to say why this or any other cause should make the complaint so exceedingly distressful to some, whilst by others it is not at all felt.

In a simple jaundice, without any apparent disorder of the liver, or other viscera, a hiccup will now and then join itself to the other symptoms, but without denoting any present or future mischief.

Dr. Heberden observes, it might naturally be expected, that the want of irritation from the bile should make icteric persons costive; but, in fact, they are often disposed to have a purging; and certainly neither of these states is peculiar to the distemper. The spontaneous diarrhoea, or the readiness with which a costiveness is removed, may help to distinguish this disease from the ileus.

In other disorders of the bowels, it is a very alarming symptom for the patients to be seized with fits of shivering: but very strong paroxysms of this kind now and then happen in the jaundice, lasting an hour, and returning every day for two or three times, without being followed by any other complaint. Dr. Heberden observes,

observes, that it is difficult to guess satisfactorily at the cause of this symptom; but whatever it be, he suspects that it happens at the time of the stone's passing into the intestines. However, neither suppuration, nor gangrene, nor any other mischief, needs to be apprehended from this shivering.

It is not constant in this malady, but is far from being uncommon, to have all solid food taste bitter, and sometimes, though more rarely, the same is true of liquids.

The milk of icteric women, who suckle children, is not tainted with the bile, either in its colour or taste.

Those who have once had this distemper are very liable to returns of it; not only because other gall stones are likely to be generated by the same causes which formed the first, but likewise because a fit of the jaundice is frequently terminated, not by the passing of the stone into the duodenum, but by its falling back into the cystis: at it's passing out of which it occasions a fresh fit; and many may thus be caused by the same stone.

A jaundice produced merely by an obstruction of the gall ducts by a stone, is usually void of all danger; but where the obstruction is occasioned by a schirrus, either of the gall ducts, or of

that part of the duodenum through which they pass, it is most likely not only to be dangerous, but incurable.

People of the middling or lower rank often go about with a deep jaundice upon them for many weeks, and are not hindered by it from doing all the common business of life, where no great exertion of strength is required.

Very different, Dr. Heberden observes, is the danger in diseases which properly belong to the liver itself. This viscus seems in some instances to have been seized with a sudden and violent inflammation, joined with a fever and the signs of immediate danger. These are either followed by a speedy death, or by a lingering illness after an unkindly suppuration; which, though more slowly, yet is scarce less certainly fatal. Such an inflammation, perhaps, more usually begins in some of the parts contiguous to the liver, to which from them the disorder spreads.

Those schirri occasionally inflame, whence a fever is excited, and the health in many respects much discomposed. On the abatement of the inflammation this fever retreats, and the patient is encouraged to hope for a recovery; but those hopes are usually vain: the intervals between these inflammations becoming shorter, the appetite, flesh, and strength decreasing, with a little cough

and hiccup, which, sometimes without, and often with a dropſy, bring on death. To this termination the progreſs in different patients is ſo unequal, as either to take up ſeveral years, or to be finiſhed in a few months.

The liver having but a very dull (if any) ſenſe of feeling, if the inflammation be confined to the interior parts, it will hardly be attended with any pain; which Dr. Heberden ſuſpects, is never perceived, but where an ulcer or inflammation of the ſurface of the liver ſeizes the diaphragm, inteſtines, or parietes of the abdomen. In this ſtate of the liver, the patients chooſe to lie on their right ſide.

A pain of the right ſhoulder is common in liver caſes; but on what circumſtances it depends, no obſervations have yet aſcertained; nor whether it belongs to a mere obſtruction of the gall ducts, or only to ſcirrhous inflammations of this part.

In the advanced ſtate of theſe ſcirrhi the blood will gush out in great quantities from the noſe, the gums, the ſtomach, the navel, and with the ſtools; which is probably owing to the obſtruction it meets in the ſcirrhous liver.

Dr. Heberden obſerves, that the worſt of thoſe caſes, of which he has ſatiſfied himſelf by ſeeing the bodies opened, will ſometimes throughout their whole courſe ſhew no ſigns of a jaundice, that is, though the complexion may be of a

leaden colour, yet the skin, and eyes, and urine, will be free from the jaundice tincture, and the stools will not be ash-coloured. The reason of which may be this: the matter of the bile before its secretion from the blood, is no more to be discovered there by any of its sensible qualities, than any of the other fluids, which may be secreted by their proper glands. But when once the separation of those liquors has been made, it is impossible to remix them with the blood in such a manner, as that they shall not be discovered by the senses. If an animal could subsist without a liver, says Dr. Heberden, and this was to be cut out of the body, the blood of this animal would no more abound with bile, than that of castrated animals does with seed. If the urine, after its secretion, meet with any obstruction, which prevents its discharge, and forces it back into the blood, all the humours will be tainted with it, so that the urinous taste will always be present to the patient. But in dropical persons no taste or smell of urine is perceivable in the humours of the body, because none has been secreted, and afterwards forced back into the blood, though they often do not make half a pint in twenty-four hours.

Let us therefore suppose, says Dr. Heberden, one half the liver so hardened with scirrhi, as

to be useless, no bile could then be separated by this morbid part, and it would be just the same as if it had been cut out; consequently there would, upon this account, be no extraordinary appearance of bile, either in the blood, or in any of the humours. But if the scirrhus part of the liver happen to be so situated, as to compress and obstruct any of the pori biliarii, through which the bile, secreted in the sound part, should pass into the common gall duct, then the passage of this bile being intercepted, it will be forced back into the blood, as in a simple jaundice, infecting that and all the humours, thence derived, with its bitterness and golden colour. The presence therefore of a jaundice with a hectic fever will afford a very convincing proof of a diseased liver; but the absence of the former will by no means confirm that the latter is not diseased.

An indurated liver is often very evidently distinguishable by applying the hand to the region of it; and this circumstance affords another certain sign of its diseased state. These are the only peculiar signs of this viscus being the seat of any malady: for the quick pulse, hiccup, sickness, and aversion to food, equally belong to the distempers of the liver, and to those of many other viscera.

It is probable, if only a small part of the liver be scirrhus, that it may by a cool regimen, and assisting the general health, be kept for many years from spreading, as sometimes happens in the breasts of women. But, as in these, Dr. Heberden imagines, so in the liver, when once such a mischief is begun, it most usually goes on increasing, and is so much more dangerous than a scirrhus breast, as its functions are more necessary to life, and as it is more likely, by being obstructed, to occasion a dangerous breach of the lymphatics and blood vessels.

Where frequent inflammations, with a considerable degree of fever, cannot be prevented, there the flesh and strength more rapidly decrease; and if the inflammation be great enough to occasion a suppuration, the only chance of recovery is from the breaking of the abscess in such a manner as that the matter may be carried off by the hepatic duct; or when the inflammation of the liver has made that organ adhere to the parietes of the abdomen, in which a tumor forms, and is opened or bursts externally.

A sudden inflammation of any of the parts contiguous to the liver, by which it would soon be affected, or possibly of the liver itself, may be occasioned by any of the causes to which pleurisy and similar disorders are owing. The more
chronical

chronical diseases of the liver, which begin with small scirrhi, arise sometimes from the same ill habit of body which occasions scirrhi in other glandular parts, or from a blow. But the most common cause is an intemperate use of spirituous liquors, which specifically hurt the liver far more than they do the stomach, to which they are immediately applied, or than they do any other of the bowels; and men are more commonly affected with scirrhus livers than women; because they are more addicted to intemperate drinking, which is the principal source of this disorder.

Bath waters are in no cases more useful, than remedying many of the injuries done to the constitution by drunkenness; but where the liver is become scirrhus, and a hectic fever shews the scirrhi to be in an inflamed state, there the Bath waters will aggravate all the symptoms, and contribute no otherwise to end the disease, than by hastening the patient's death.

In the cure of those whose gall ducts are obstructed with biliary concretions, the first thing to be attended to, is the pain; which is often so excessive, that nothing else ought to be attempted, until this is relieved. Bleeding here is of no use, and should therefore be foreborn, as an unnecessary waste of strength. This pain can only be assuaged by opium, or its preparations,
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administered as often as the continuance of the pain requires. Dr. Heberden observes, that because this pain is very apt to return, the patient should always be advised to keep by him, as long as the distemper lasts, pills of pure opium, each weighing one grain (or what is equivalent to them) that no time may be lost in quieting a sensation which it is so difficult to endure. One of those pills may be taken as soon as the pain comes on ; and it may be repeated once or twice, in the space of two hours, if the pain require it. Dr. Heberden has often found it both safe and necessary to give much more.

Vomiting is commonly the next symptom which demands the physician's assistance. This seems to be an effort of nature to dislodge the stones ; but there is room to question whether it be such an effort as ought to be encouraged, or checked. For, though on the one hand, this violent concussion may force the stone back into the cystis, or forward into the duodenum, and so effect either a temporary relief, or a perfect cure ; yet it may be feared, says Dr. Heberden, if the stone be so fixed in the duct as not easily to be moved, that the action of vomiting will lacerate the membranous duct, and prove the cause of future mischief, as well as of present pain. Whether this apprehension be just or groundless, can only be determined

determined by experience ; and Dr. Heberden informs us, that from what he has observed of icteric cases, it has appeared to him, that a vomit excited, while the pain was intense, has rather quieted, than aggravated it, and has never brought it on. But if we be secure of its doing no harm, there is so good a chance of its proving beneficial, that, whether the patient have a vomiting, or not, it is a judicious practice to order an emetic, either at first, or as soon as the intenseness of the pain has been alleviated, and occasionally to repeat it. To excite a vomit in this complaint, is much more easy than to stop it ; and therefore it is always proper, and sometimes necessary, to order an opiate to be taken after a moderate number of strains have been procured, or if the sickness continue longer than usual.

Dr. Heberden observes, that similar good effects may be expected from purging medicines, by their increasing the natural motion of the intestines, and soliciting a greater flow of bile, as well as of all the other humours which are poured into them. Mercurial purges have been preferred by some practitioners ; but there appears nothing in the known powers of mercury peculiarly useful in dislodging a biliary concretion ; and the preference should be given to those purges which act with the most ease, and may be continued with
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the greatest safety. Such are the sea water, the water of many purging springs, and also many of the neutral salts, dissolved either in water, or, if it can be borne, in a weak infusion of some bitter vegetable substance. These may be taken for several months either every day, or every other day, without palling the appetite, or exhausting the strength or spirits. The jaundice of infants and young children soon yields to a few purging medicines.

If it happens that the jaundice is of itself attended with a purging, there may be nothing farther necessary, than by gentle means to prevent its being excessive, and at the same time to strengthen the stomach by proper bitters.

The itching is many times so extremely troublesome as to require opium; without the help of which it would be impossible to procure any ease, or sleep.

Dr. Heberden observes, that besides those medicines, which have appeared to him the most beneficial of any he has seen used, there is a class of bodies which have been trusted to, from an opinion that they have a power of dissolving gall stones. Of this kind are the alkaline salts, lime-water, soap-leys, and various soaps. Dr Heberden informs us, that he has tried the dissolving power of all those; and that the strongest of them, the

the soap-leys, could only fetch out a slight green tincture from a gall-stone, but neither seemed to lessen its bulk, nor to alter its shape in several months ; and there is very little probability of their being able to do more in the body than out of it. Gall stones were likewise infused in every one of the acid spirits, without being dissolved in any.

But had we ever such powerful solvents of gall stones, says Dr. Heberden, it might be doubted whether they could do any service in the obstructions which these occasion. For whilst they remain in the ducts, or cyst, the solvents cannot reach them ; and when they are come out into the intestines, they will of course be voided by stool.

Dr. Heberden remarks, that the only use of soap and alkaline salts in a jaundice, so far as we can reason upon their probable virtues, is, to make amends for the deficiency of the bile, which they resemble, in digesting the food, and cleansing the bowels. But too much stress must not be laid upon this reasoning ; for he has known large quantities of an acid, such as lemon-juice, taken by some icteric patients with so much apparent benefit, as to have gained the credit of the cure.

The judicious physician whose sentiments I have delivered, concludes with observing, that biliary concretions are probably one cause, amidst various others, of an uneasiness or pain of the stomach, to which the complaint is usually referred, whether the pain be seated there, or in some of the neighbouring parts; and the same may be said of a chronical nausea, and sense of fullness. This opinion Dr. Heberden has been induced to entertain, from finding, that in near twenty persons a supposed pain of the stomach, which has frequently afflicted them for months, or years, has at last been joined by a jaundice. He does not determine whether this may be attributed to small grumes of bile, which are perpetually forming, and irritating as they pass, the entrance into the duodenum; or whether it must be attributed to a stone in the cystis fellea; which, though it be often unattended with any pain or uneasiness, yet, like the stone in the bladder of urine, may, in certain situations, occasion very disagreeable feelings in the parts against which it presses.

Whatever be the way in which these causes act, says Dr. Heberden, it will often be useful to have them in our thoughts, where a pain, or loathing, or sense of fullness in the stomach is complained of, and other circumstances make such causes appear

appear not unlikely. For in this case gentle vomits, and a course of purging waters, would prove the most effectual cure; by altering the position of the stone, or by facilitating the expulsion of the grumous matter, and by preventing the formation of it, while the gall was made to flow more plentifully into the intestines.

Of the COLICA PICTONUM.

THE colica pictonum, or colic of Poitou, otherwise, the endemial colic of Devonshire, has within these few years been the subject of much investigation. It seems now to be admitted, on all hands, that lead introduced into the body is the general cause of this disease; though concerning the manner in which this poisonous mineral gains access into the constitution, there is yet a variety of sentiments.

From whatever cause this malady proceeds, Dr. Warren observes, that it begins with a sensation of weight or pain at the pit of the stomach, attended with loss of appetite, yellowness in the countenance, a slight degree of sickness and costiveness. The pain gradually increasing, soon becomes violent and continual. The sickness
advances

advances nearly in the same proportion; and, by the second day of the disease, retchings are succeeded by frequent vomitings of a very acrid slime, and porraceous bile. The matter discharged from the stomach seems to the patient to come immediately from the part affected, and the vomiting always flatters him with a momentary relief, but the pain soon returns with as much severity as before.

The pain is most commonly seated at the pit of the stomach, where it will sometimes remain fixed in one point, from the beginning of the disease to the end. It will however very frequently descend to the region of the navel, from which it will shoot to each side with so much violence, that the patients declare they feel as if they were cutting in two. It will thence dart into the back and loins, and passing down to the bladder in the direction of the ureters, will resemble a fit of the stone. Sometimes it shoots into the scrotum, groins, thighs and legs; or, mounting into the breasts, shoulders, or arms, resembles a violent fit of the rheumatism; always leaving so great a degree of soreness in the external muscles, that the weight of the bed-cloaths, or the slightest touch of the finger, is painful.

It is remarkable, that two distant parts of the body are seldom affected at the same time. If
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the pain is in the stomach, the lower bowels are generally easy, and the external muscles always. If the latter be affected with pain, the stomach and bowels are perfectly free, and the patient is apt to imagine that his disorder is gone off, or converted into another. He is soon undeceived, however, and, at the end of two or three hours, feels the pain returning with all its violence, to its former seat, the region of the navel, or the pit of the stomach.

When the pain is seated near the navel, and the patient complains that he feels as if he was boring through with an instrument, the abdominal muscles are sometimes knotted, sometimes, painfully retracted, with all the contents of the abdomen, towards the spine. In whatever part of the bowels the pain is seated, there is frequently a very considerable fulness, and tension of the abdomen. The pain does not, as in some colics, abate and increase several times in a few minutes, but generally observes the same tenor for several hours together; sometimes it has exacerbations, and now and then it admits of intervals for two or three hours. The spincter muscles of the bladder and anus are always affected; sometimes the strangury and tenesmus are the consequences; at other times a total inability of making water, and so great a contraction of the

sphincter ani that a clyster can hardly be introduced. The vomiting, unless relieved by medicines, continues as long as the pain; or if this symptom ceases, bitter eructations and hiccups come on in its room.

This disorder is not preceded by chilliness, nor often attended with fever at the beginning; the pulse at that time, notwithstanding the violence of the pain, being generally found as quiet as in health. After the fourth or fifth day of the disease, the pulse grows quicker; but Dr. Warren has commonly thought that this was rather the effect of medicine than of the distemper. For when the complaint has been entirely let alone, though there has been very great tension of the abdomen without any stool for five days together, the pulse has not grown quick, nor has any sign of inflammation come on.

The urine is so various as not to admit any certain information being drawn from it. Sometimes it is high coloured, and remains clear; sometimes it deposits a lateritious, at other times a bright pink sediment; and sometimes it is pale, with a white woolly sediment.

Towards the end of the disease there is generally a pain round the edges of the feet, and at the end of all the toes, which are frequently red and swollen, and in appearance gouty. Relieving
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ing sweats likewise break out, attended sometimes with eruptions. About this time the patient feels a griping in the lower bowels, with a disposition to go to stool, and after large discharges of various kinds of excrement, frequently of hard lumps, in shape resembling sheeps dung, with black and dirty coloured slime, now and then mixed with blood, he is perfectly relieved.

Though the disorder be moderate, and treated in the best way we know of, it can seldom be removed in less than four, five, or six days, and it will sometimes require even a longer period ; but if it is neglected, ill-treated, or very violent, it will last weeks, or even months, with now and then a truce for a few days, and terminate at last in a peculiar species of palsy of the upper extremities ; or deafness, blindness, delirium, and epileptic fits coming on, in death.

It is observed that this complaint has many symptoms in common with a dysentery ; and if a tenesmus comes on at the beginning, with a discharge of mucus and blood, as sometimes, though rarely happens, it is very difficult to distinguish the one disease from the other. The dysenteric pain however differs from that of this colic, in not being for any length of time equally severe, and in going and coming several times in

a few minutes. Besides, a tenesmus is often a consequence, but seldom attends at the beginning of a dysentery.

As soon as the complaint is ascertained, the patient should be ordered to drink half a pint of warm camomile-tea, which will presently be vomited up, with some of the acrid contents of the stomach. After the stomach has been washed in this manner two or three times, and some little relief has thence been procured, twenty drops of tinctura Thebaica in an ounce of water, or a grain of opium in a pill, should be directed to be taken immediately, and to be repeated every two or three hours, till the pain is abated, or the patient is laid asleep. If he wakes some hours after, complaining of pain and sickness, as he probably will, the camomile-tea and opium must be repeated as before.

After twenty-four hours treatment in this manner, the pain will sometimes be considerably abated, or a short truce will succeed, and the patient find himself disposed to eat. This interval should be employed in giving some proper sustenance, which ought not to be stronger than weak chicken broth or panada, nor should it be much in quantity; for if the stomach is oppressed, the sickness will return the sooner, and all the symptoms will be aggravated. But whether any food

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is taken or no, the colic will return, and the same method of cure must be pursued from day to day, not only till the pain is removed, but till the tension of the abdomen subsides, and such symptoms appear as shew that the disease is near its termination. Those are not to be expected till the third, fourth, or fifth day from the beginning of the cure, sometimes much later. Purging medicines should now be given; and Dr. Warren informs us, that in this state of the disease, he has always found the gentlest the most efficacious. Stools may be procured with more ease, and in less time, by two drams of cathartic salt dissolved in warm water or infusion of senna, and taken every two hours, than by any drastic purge whatever. Instead of the cathartic salt, Dr. Warren has sometimes given half a dram of sulphur præcipitatum in a bolus every four hours; sometimes a dram of cream of tartar dissolved in water, as often, and now and then the oleum ricini. An ounce of this oil, with two ounces of water, and about half the yolk of an egg, makes a draught that may be taken tolerably well, and need not be repeated so often as the other purgatives. But Dr. Warren informs us, that, from what he has experienced, it is more apt to be vomited up than the other medicines; and he believes it is indifferent what cathartic is used,

provided it is not rough, nor painful in its operation. In general, the purging must be continued till the bowels are emptied, and the patient is free from all uneasiness in them.

If, after the purging, the pain returns to the region of the navel, or the pit of the stomach, purging medicines must be laid aside, and recourse be again had to opium. At the end of a day or two the bowels will discharge, with relief, as large a quantity of fæces as before. But if the purging is continued, notwithstanding the return of the pain, the symptoms will be aggravated, and the disorder protracted.

If the pain be not removed by the quantity of laudanum abovementioned, the dose must be increased. Two grains of opium have been given with success three times in six hours. But in general, if a moderate dose by the mouth does not suffice, a clyster of four ounces of oil of olives, and forty drops of tinctura Thebaica should be injected; which will sometimes prove more effectual than twice the quantity by the mouth; and, if the pain returns, should be repeated.

Dr. Warren has frequently, with some little benefit, ordered the abdomen to be fomented with warm water; to be rubbed with warm oil; or with a liniment made of the expressed oil of mace, oil of almonds, camphor, and opium; and
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sometimes to be covered with a large plaster of Theriaca Andromachi. But no great stress is to be laid upon external applications ; and the foreness of the muscles renders them frequently very inconvenient. The warm bath takes off the pain immediately ; and while the patient remains in the water, he is perfectly easy ; but he no sooner comes out of it, than the pain returns with as much violence as before. Dr. Warren observes, that it seems as if it was necessary to remove the spasm for several hours together, before the bowels can recover themselves ; and therefore the warm bath cannot be expected to be of much service, unless the patient could stay in it for many hours together.

Though this complaint be apparently quite carried off, it will frequently return in a few days, if the patient is suddenly exposed to cold, or loads his stomach intemperately ; and Dr. Warren has sometimes thought that the disposition to return has arisen from purging medicines being given too soon, before the spasms were sufficiently abated by opium.

If after the colic is removed, the bowels are in good order, and do their office without any stimulus, no more medicines are required. But costiveness is very apt to succeed ; and so long as it lasts, whether it be months or years, the pa-

tient is in danger of a relapse. In order to remove this, he should be directed to take two drams of the cathartic salt dissolved in half a pint of Pyrmont water every morning, and another half pint of the same water without any salt at noon; or ten grains of *Limatura Martis* twice a day, with fifteen grains of *Pilula Ruffi* at night; or as much cream of tartar, morning and evening, as is sufficient to keep the bowels laxative. When these means have failed to remove the costiveness, Dr. Warren has known the Bath waters singularly serviceable; and even when the bowels have not particularly wanted their assistance, they seemed to recruit the debilitated patient sooner than any other means.

As this complaint has been supposed to go off by a critical discharge of sweat, sometimes attended with eruptions, and by a copious diarrhæa, spontaneously supervening, physicians have been induced to take thence the indications of cure, and, at the beginning of the disease, have endeavoured, either to raise sweats by cordial diaphoretic medicines, or to procure stools by means of the most stimulating cathartics. By the former method, febrile symptoms are brought on, which otherwise do not appear; by the latter the pain is much increased, and stools are seldom obtained. The perpetual disposition to vomit renders almost

most all cathartics for several days ineffectual; and stimulating clysters increase the stricture and spasm of the bowels. If, however, stools are obtained by either, the relief, if any, is only temporary: the costiveness remains; while the distemper is protracted, and seldom goes off till some antispasmodic means have been used. The truth, as Dr. Warren believes, is, that this complaint does not terminate by any critical evacuation; that the sweats come on because the body is relieved; and the bowels discharge their contents with ease, at the end of the disorder, because the spasm is removed. It is in vain therefore, before certain symptoms come on, to endeavour to procure either the one or the other. From an eagerness to put an end to the complaint, Dr. Warren acknowledges that he has more than once directed purging medicines too soon, and has always found the colic protracted by them. Opium must be continued in a greater or less proportion till the painful symptoms mentioned above are removed; and purging medicines should not be given even then, unless the patient complains of a griping in the lower bowels (a sensation very different from the pain of the colic) which never fails to precede the termination of the disorder. If neither a diarrhoea comes on (which Dr. Warren has seen only twice) nor the

the griping in the lower bowels, the case is nothing more than a fallacious truce, and the patient will soon be in pain again.

Bleeding, unless there be a fever, is never of any use, and is sometimes very prejudicial. This disease seems to be not in the least related to inflammations, nor is there any reason to apprehend a gangrene of the bowels, though the costiveness should continue many days, with a considerable tension of the abdomen.

Dr. Warren observes, that the temporary relief derived from vomiting is apt to induce a practitioner to prescribe emetics; and the large quantity of green and discoloured matter, thrown up by them, persuades him that his prescription was judicious. The peculiar irritation of this colic brings on a large secretion of such matter, which is very offensive in the stomach; and this secretion, which opium would have abated, is promoted by the increased irritation from the action of the vomits; so that a succession of this porraceous bile may be continually procured by vomits, and a man may flatter himself that he is removing the cause, when, in truth, he is only increasing the disorder.

Vomits neither diminish the pain nor shorten the disease. They are often given without any other inconvenience than that of tiring the patient;

tient; but sometimes they bring on convulsions and delirium. Half a pint of camomile-tea, which may be frequently repeated, generally makes the stomach discharge its contents, and gives as much relief, without any inconvenience, as the most boasted antimonial vomits. It seems to do just as much as is wanted: it brings up the offensive matter that is already in the stomach, without soliciting more into it by any new stimulus. Dr. Warren acknowledges that this disorder has been removed by vomits, by strong cathartics, and by stimulating clysters; but this method is sometimes dangerous, and always more tedious and painful than that above described.

INCONTINENCE of URINE.

ASTRINGENT and corroborating medicines were formerly the remedies generally prescribed in this disease; but the method of cure has within these few years been improved by Dr. Dickson, physician to the London Hospital. Having observed, in a variety of cases, that blisters covering the *vertebræ* of the neck, and going obliquely to the shoulder, were remarkably

remarkably more useful in palsies of the upper extremities, than when applied to these parts, he formed the resolution to try the effects of them in palsies of the lower extremities, by laying them upon the region of the *os sacrum*. This experiment he repeated several times, with as much success as convinced him that vesicatories proved infinitely more advantageous thus used, than when applied either to the thighs or legs.

From the observations which Dr. Dickson had already made, he was induced to try the effects of a blister laid on the region of the *os sacrum* in an incontinence of urine; knowing that most of the nerves, which go to the bladder, pass through the *foramina* of that bone. The first person on whom he made the trial, was a girl about thirteen years of age, who had laboured under an incontinence of urine during four years. She had taken bark and elixir of vitriol in no small quantities, and afterwards valerian, with the volatile julep, for a considerable time. A large blister being applied to the *os sacrum*, the incontinence of urine was totally removed within twenty-four hours.

The next case of an incontinence of urine, in which he tried this remedy, was accompanied with a palsy of the lower extremities, and its good effects were remarkable in respect of both these diseases.

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The patient, who was thirty-two years of age, had been seized with the palsy about a year before his admission into the London-Hospital; and at this time he was attacked with a suppression of urine, which notwithstanding the use of various medicines, lasted four days, attended with great distention of the belly, and excessive pain. His urine then came away involuntarily, and he had so obstinate a costiveness, that he never went to stool without taking some purging medicine.

At first the patient was ordered two ounces of *tinctura sacra* to be taken immediately, and a spoonful every night and morning, or occasionally, to keep his belly open; besides half a drachm of bark, with the same quantity of valerian, to be taken three times a-day. Four days afterwards a large blister was applied to the region of the *os sacrum*; the effect of which was so great, that in less than twenty-four hours he could retain his water above an hour at a time, and in a week for two hours; the incontinence of urine gradually diminishing, till the disease entirely disappeared.

The efficacy of blisters thus applied in incontinence of urine, Dr. Dickson has repeatedly ascertained in several cases; and the fact derives
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additional confirmation from other experiments communicated by Dr. Fothergill of Northampton.

OF CHRONIC WEAKNESS.

THOUGH chronic weakness is the origin of a great variety of disorders, it has till lately never been treated by any medical writer with that degree of attention and accuracy which the importance of the subject requires.

This species of weakness is distinguished from that which accompanies acute diseases by the slow and gradual progress of its invasion. It usually begins with morbid affections of the stomach and bowels. Flatulence, acidity, heart-burn, costiveness, or colic pains, frequently afford the first signs of the approaching disease. A diminution of appetite, and a slight dejection of spirits soon occur. The muscular strength is impaired, and the patient feels a languor and an aversion to motion. This disposition to indolence continually increases, and a sense of weariness is easily induced. The legs become sensibly enfeebled, and the person finds an unusual difficulty

culty in walking up stairs. The uneasiness of the mind, arising from a debilitated state of the body, becomes more considerable, and contributes much to accelerate the progress of the disease. The aliment is imperfectly digested, the stomach and bowels are distended with air, in consequence of which they are thrown into spasmodic contractions, attended with pain and anxiety. A considerable quantity of limpid water, or of the acid and putrid matters contained in the stomach, regurgitates frequently into the mouth. In this state of the patient there is sometimes a palpitation in the breast, with shortness and difficulty of breathing. The head, from the great connection which subsists between it and the stomach, is affected with pain and dizziness; the former of which symptoms, in some cases, is very severe and constant. The person is sometimes affected with a diarrhœa, but is most generally costive. An obstinate watchfulness, or unrefreshing sleep, disturbed with perpetual dreams, are common in this disease.

In the minute and accurate description which Dr. Withers has given of this disease, he mentions, as a concomitant symptom, a relaxation of the organa virilia, attended with a discharge of viscid mucus from the urethra and vesiculæ feminales. When this symptom occurs, however,

ever, should be inclined to consider it rather as an accidental than a characteristic attendant of the disease; and to suspect, that, instead of being produced by the general weakness of the body, the latter was the effect of a local imbecility of the feminal vessels, a copious or long continued discharge from which had reduced the vigour of the constitution.

The proximate cause of chronic weakness seems to be justly imputed to a defect of nervous energy, an increased mobility of the nervous system, and a diminished cohesion of the fibres. In avoiding the occasional causes, which may be various, in obviating particular symptoms that aggravate the complaint, and in restoring the tone and vigour of the system, the cure must entirely consist, towards obtaining which a proper attention to diet is indispensably necessary. All acids, fermented liquors, much sugar, and new bread, ought carefully to be avoided.

Several writers have recommended an animal diet as the most suitable in a weak state of the stomach and bowels; but Dr. Withers is of opinion that a mixture of animal and vegetable food is the most conducive to health. For the preservation of health in a sound constitution such a regimen is doubtless the most proper; but it is certain that in those habits where the
alimentary

alimentary canal is disposed to generate acidity, a very small quantity even of the mildest vegetable food will produce many troublesome symptoms. Nor seems there to be any just ground for apprehending an alcalescent disposition of the fluids in a constitution of this kind, so long as the tendency of animal food to putrefaction can be counteracted by a moderate portion of bread; for it is almost inconceivable how small a quantity of this substance will communicate an ascescency to the chyle, when fermentation is carried too far in the digestive process.

Of HYSTERIC and HYPOCHONDRIAC DISEASES.

THESE diseases are so nearly allied to chronic weakness, that they may be considered as inseparable from that state. The radical cure of them must likewise depend upon the same means which are indicated in the latter; but in respect of the palliative cure, the use of nervous medicines has been generally recommended.

A great dispute has subsisted among physicians, respecting the expediency of bleeding, when

the hysteric paroxysm is violent. It is urged in condemnation of this practice, that, as the remote causes which produce the hysteric disease, are such as weaken the constitution, an evacuation, which tends manifestly to increase that debility, ought never to be admitted upon the principles of rational indication. For, that it would be highly absurd to expect even any temporary advantage from such a method of cure, as, if considered in a prophylactic relation to the disease, we must allow to be extremely pernicious. In answer to this argument, it is insisted by the advocates for phlebotomy, that though bleeding, in certain circumstances, has a natural tendency to diminish the strength of the constitution, yet in general, such an effect of that evacuation is not uniform, but relative ; and that in a violent paroxysm of the hysteric passion, when the circulation of the blood is either much obstructed, or tumultuously agitated, by spasms and convulsions, it is infinitely preferable to adopt an expedient which may obviate so imminent a danger, rather than, from the apprehension of more distant and precarious consequences, timidly to abandon the patient to the hazard of instantaneous destruction. That in all cases where opposite indications take place, that which is the most important and indispensable ought ever to attract
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our chief attention ; and that it would be vain to look forward with caution to uncertain contingencies, if we should be deaf to the inviolable suggestions of extreme necessity.

Such are the arguments used for and against the practice of bleeding. To consider the question in the light of theory only, and on which of the sides the determination might prove most generally beneficial, it would perhaps be prudent to suspend our judgment ; but if we conduct our deliberations with an attentive regard to the constitution of individuals, there is hardly a speculative point in physic which may be determined with less hesitation. Whoever considers the great commotions into which the whole animal œconomy is thrown in a violent hysteric paroxysm, will be satisfied with regard to the propriety of bleeding, where the patient is plethoric, or there is a stoppage of any natural discharge.

The medicines most proper in the hysteric paroxysm may be divided into two kinds, viz. such as by their peculiar stimulus not only render the nerves less sensible of irritation, but also afford them some degree of temporary firmness and strength ; and such as diminish, during the time of their operation, the sentient power of the nerves, and thereby allay the spasms and convulsions which proceed from an irritating cause. Of the

first kind are musk, castor, and camphor. In such hysteric complaints, however, as are attended with a quick pulse, and feverish heat, these medicines ought to be administered sparingly, on account of their heating quality; as being much better suited to the cases where the pulse is weak and slow. But even in circumstances where they are proper, they are not all observed to be equally successful. For sometimes one, sometimes another, will be found most advantageous, according to the disposition of the nerves of the stomach at the time. This is so peculiar in some cases, that a table spoonful of the juice of lemons alone has repeatedly assuaged a palpitation of the heart, after many of the medicines, denominated anti-hysteric, had been prescribed without effect.

Among the second class of medicines above-mentioned, the principal is opium, which is not only highly useful in fixed spasms, but also in alternate contractions, and is adapted to the palliative cure of all hysteric symptoms, from whatever different causes they proceed. It is most advantageous, however, in those hysteric complaints which are chiefly the consequence of an extraordinary delicacy of the nervous system. But even in such cases it ought not to be too liberally used, or too long continued, as it impairs the strength
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of the body ; and it ought seldom to be administered to patients who are low spirited. For though it may afford them a temporary relief from their complaints, yet afterwards they generally become more depressed than before.

If the patient be in any degree plethoric, bleeding, or some other evacuation, ought always to precede a more free exhibition of opium ; as it not only facilitates the good effects of the latter, and renders them more evident, but likewise greatly prevents any bad consequences which might otherwise result from a liberal use of that remedy. It generally happens that a continued use of opium renders the patient too costive ; in which case an aloetic pill, a spoonful of tinctura sacra, or some other gentle purgative, should be taken occasionally.

The judicious Dr. Whyte, who has so much illustrated the nature and cure of this disease, observes, that besides the medicines properly termed anti-hysteric, other remedies ought also to be employed, adapted to the particular cause of the paroxysm, and which therefore must often be entirely different from each other.

When hysteric complaints are owing to a diminution or suppression of some accustomed evacuation, that discharge ought to be promoted or recalled by such methods of cure as are adapted to the

particular causes whence the obstruction proceeds. But when in women advanced in life, such symptoms first appear on the total cessation of the menses, they are generally either palliated, or removed, by frequent small bleedings, gentle stomatic purges, and issues.

If inanition be the cause of hysteric complaints, as often happens after an immoderate flux of the menses or lochia, the cure, upon restraining these evacuations, consists in replenishing the vessels with wholesome and nourishing aliments of easy digestion. The violence of the symptoms ought in the mean time to be restrained by anodynes, wine, or other cordial medicines, and a horizontal posture be advised.

In hysteric disorders proceeding from any acrid matter in the blood, gentle laxatives and stomatic medicines are the most approved remedies.

When wind in the stomach is the cause of the complaint, nothing, says Dr. Whyte, is more immediately efficacious than the *spiritus æthereus* and laudanum. A tea-spoonful of the former may be given with two table-spoonfuls of water; and the latter in a mixture with pepper-mint water and tincture of castor, or *spiritus nitri dulcis*. Or, instead of these, opium may be prescribed in pills with asafœtida. The salutary effect of opiate medicines above those which are commonly called
carmina-

carminative, in dispelling wind, are evident from this circumstance, that whereas carminatives seldom afford immediate relief, unless when the wind is in the stomach, opiates are equally successful whether the flatulence be in the stomach or intestines. But when the situation of flatulent patients renders it improper to administer warm medicines internally, a plaister, made of equal parts of *emplastrum anti-hystericum* and *stomachicum*, may be applied to the stomach or belly with advantage; or four or five tea-spoonfuls of the following may be well rubbed on these parts at bed-time.

R Balsam. anodyn. Batean. unc. unam.

Olei Macis per express. semunciam.

Menthæ drachmas duas. Misce.

Great benefit has also been experienced, in flatulent pains of the stomach and bowels, from frequently rubbing the legs with a flesh-brush.

If the cause of hysteric symptoms be phlegm infesting the stomach, a vomit is the speediest remedy; along with which should be drank an infusion of horse-radish; or a little brandy, or powder of mustard, may be added to each draught of the warm water, both to attenuate the phlegm, and strengthen the stomach to discharge it. When along with phlegm there appears to be a

considerable degree of acidity in the stomach, half a scruple of any fixed alkaline salt, or a larger dose of absorbent powder, may be given twice a day.

When worms in the stomach and intestines excite hysteric disorders, anthelmintic medicines should be administered along with other palliative remedies.

When obstructions in the abdominal viscera are the occasional cause of the hysteric disease, we can only palliate the most troublesome symptoms till these are resolved. In general, however, it is difficult to ascertain the existence of such obstructions, unless when the tumors can be felt, which is but seldom the case. But if want of appetite, indigestion, flatulence, vomiting, and pains of the belly have continued long, without any great intermission, and instead of abating by the use of medicines, become worse, especially in women whose menses have left them, there is reason to suspect some fixed obstruction in the bowels, particularly if the patient has a quick pulse, without much heat or thirst.

In considerable obstructions of the viscera, if the person be of a full habit of body, bleeding ought to be premised before the use of deobstruent medicines; as, by lessening the quantity of fluids, it not only tends to diminish the obstruction,

struction, but also to facilitate the operation of resolving remedies. As the best medicines for this purpose, Dr. Whyte recommends the *tartarus solubilis*, sal polychrest, mercury, and soap. These, however, are chiefly useful in such obstructions as have their seat in the follicles of the glands, or in the small vessels themselves; for little or no effect can be expected from them, when the obstructing matter is accumulated in the spaces of the *tela cellulosa*.

In the early stage of indolent obstructions in the abdominal viscera, frequent gentle vomits, and purges, are highly advantageous. But when obstructions of the stomach are become irresolvable, vomits, especially of the more drastic kind, must be extremely improper; as the violent contractions which they excite may inflame the obstructed part, or even burst some of the contiguous vessels. In such a situation therefore all hot and acrid nervous medicines must be likewise injurious.

In obstructions of the indolent kind, which are not deeply seated, remarkable benefit has been experienced from long continued friction. For at the same time that it promotes the circulation through the small vessels, it tends to attenuate the impacted matter, and increase the discharge of it by absorption.

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Among topical remedies, warm fomentations are of great advantage, both as they relax the vessels, and attenuate the obstructing matter. They ought to be applied daily morning and evening for near two hours at a time ; taking care that they are not made so hot as to render the skin too tender, which would otherwise be the consequence of long continued fomentation. The most commodious manner of applying them is to use flannel cloths, either wrung out of warm water alone, or, what is preferable, a warm decoction of wormwood and camomile flowers, or the tops of hemlock, with the addition of a little vinegar.

In obstructions of the viscera, the use of whey, especially that of goats, is extremely serviceable. The diet ought to be light, not flatulent, and the drink, which should consist either of water alone, or mixed with some Rhenish wine, should be used rather tepid than cold. Riding on horseback is also highly beneficial, especially in beginning obstructions.

When hysteric disorders proceed from violent passions of the mind, they scarce admit of palliation by any physical remedy, till the cause which produced them is abated.

An usual expedient formerly in the cure of the hysteric fit, was to apply ligatures about the
limbs,

limbs, from an erroneous notion that they prevented a supposed malignant humour from ascending from the lower extremities to the head, which was imagined to be the cause of the disease. But the effect of such a practice must have been as pernicious as the opinion on which it was founded was absurd. For, certainly nothing could be more repugnant to the indications of the disease, than to interrupt by ligatures the free circulation of the blood, which was already totally suspended, or rendered extremely irregular by the spasms. But though the method of binding the limbs by ligatures must be highly prejudicial, the practice of keeping them extended, during a violent paroxysm, may prevent many accidents which might arise from the convulsive distortions.

A broad bandage rolled round the belly has also been recommended as beneficial, probably upon the same principle with the ligatures. Such an application indeed may be liable to less objections than those last mentioned, unless it is drawn too tight, in which case it must doubtless prove a great impediment to respiration.

When the paroxysm has ceased, the next object is to prevent its return, and this end can only be effected by correcting the predisposing, and guarding against the occasional causes.

The great predisposing cause of hysteric disorders appears to be too great a sensibility of the nerves, whether it be diffused through the whole constitution, or most predominant in some particular part. The diminution of this sensibility, therefore, must be the principal intention in prosecuting a radical cure.

For diminishing sensibility we are provided with two classes of remedies, one of which operates by strengthening not only the stomach and bowels, but the whole body ; and the other by a peculiar sedative action on the extremities of the nerves to which they are applied, thereby producing a temporary suspension of their disorders.

In the first class of these remedies may be reckoned all bitters ; but the most celebrated medicine for this intention, is the Peruvian bark, which is also less heating than the former. Like them, however, it frequently disagrees with delicate stomachs, occasioning sickness, gripes, and sometimes a looseness ; but in decoction, or watery infusion, it is less apt to produce these effects, than when taken in substance, especially if some grateful aromatic be added to them. Dr. Whyte informs us, that in the case of weak and windy stomachs, accompanied with a general delicacy or debility of the nervous system, he has
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often prescribed the bark and bitters in the following form, with great success.

R Cort. Peruvian. pulverisat. ℥iv.

Au. antior.

Rad. gentian. ana ℥iss. M.

Infunde in spiritus vini Gallici libras quatuor, in balneo arenæ per dies sex, & cola.

Of this tincture he generally gave one table-spoonful, with four or five spoonfuls of water, every morning, an hour and a half before breakfast, and between seven and eight in the evening. He sometimes added to each pound of this tincture, an ounce or more of the spiritus lavendul. composit. which improves its taste, and makes it sit better on some stomachs.

Other strengthening means, adapted to the cure of nervous complaints, are steel, cold bathing, riding on horseback, and sailing; but during the use of them, the patient should always endeavour to preserve tranquillity and chearfulness of mind.

The only author that condemns these remedies, is Dr. Pomme, a French physician, who substitutes a new therapeutic process, which he affirms to have been adopted with extraordinary benefit in a great variety of cases.

Instead of endeavouring to brace the nerves by strong remedies, Dr. Pomme advises to relax them by the contrary means. A moistening and
diluting

diluting regimen appears to him not only the most proper, but the only means required, viz. simple or compound, tepid or cold bathing, pediluvium, glysters of cold water, or even ice, as the particular case or season may require; fomentations with emollient herbs, cooling ptisans, veal or chicken-water, whey clarified or distilled, broth made of pullet or turtle, of lamb, of calf's pluck, or of frogs. Oily, sweetening and mucilaginous draughts, and acid mineral waters. He dissuades from ever having recourse to the supposed anti hysteric or anti-spasmodic medicines, such as tincture of castor, oil of amber, camphor, asafoetida, musk, mugwort, valerian, &c. with an infinity of emmenagogues, bitters, carminatives, and gentle purgatives; imagining that these remedies, though highly efficacious in various disorders, must necessarily prove detrimental in the diseases here treated; because they add fire to a flame already too violent, and which ought, on the contrary, to be extinguished by mild and gentle means.

Dr. Pomme observes that some patients complain of a sense of cold in some particular part of the body; while others suffer universal cold, in spite of all their precautions to guard against the inclemencies of the air. The cause of this symptom, he thinks, is evidently ascertained, by
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the different effects of his remedies from those of a contrary nature, which were previously administered to the patient who is the subject of the following case.

A lady, about forty, was for many years afflicted with a sensation of universal cold, which obliged her to clothe, even in the hottest weather, as carefully as others in the midst of winter. In spite of all her precautions to defend herself from cold, she was uniformly sensible of its effect. The excessive heat of the stove in her chamber, with a bed warmed and immediately covered being found insufficient, she at length had recourse to medical assistance. The first physician who attended her, pronounced the disease to be the effect of obstructed perspiration, which he accordingly endeavoured to restore. Bleeding, cathartics, and sudorifics were alternately employed, but without effect. The insufficiency of these remedies, however, making no alteration in the physician's opinion respecting the method of cure, he ordered the sand-bath; but before it was administered, Dr. Pomme was consulted.

By the inefficacy of the remedies which the patient had already tried a long time, and by certain hysterical symptoms which Dr. Pomme discovered in the account she gave of herself, he immediately perceived that her disorder was
hysterical.

hysterical. The spasmodic tension of the nerves which terminate in the skin, he considered as the only cause which he had to encounter. The warm bath seemed likely to answer all his expectations, as it would probably relax the texture of the skin, open the pores, and by these means restore the circulation of the fluids. The patient preferring it to the sand-bath, she began it next morning; and in the space of two months was able to leave off part of her coverings. The completion of her cure was however delayed, by a variety of domestic accidents, till the return of summer.

SCIATICA.

THIS obstinate disorder has hitherto in great measure baffled the utmost efforts of medical ingenuity. The latest writer on this subject, and one of the principal among the moderns, is Dominicus Cotunnus, whose observations were made in the Hospital of Incurables, at Naples. He entertains an opinion that there are various species of the sciatica, according to the different parts in which the pain has fixed its residence; but

but of those he considers two as particularly deserving attention. One is, where the pain is felt in the hips, and extends no farther; the other where it runs along, as it were, in a track, and is propagated down to the foot of the same side. The former he distinguishes by the name of the arthritic sciatica, and the latter by that of the nervous; but it is only on the last mentioned species that his observations are employed.

Dr. Cotunnus likewise distinguishes the nervous sciatica into two kinds. The one is a fixed pain in the hip, situated chiefly behind the great trochanter of the thigh, extending itself upwards to the os sacrum, and downwards by the exterior side of the thigh to the knee. This pain, he observes, seldom stops at the knee, but often runs on the exterior part of the head of the fibula, and descends to the fore-part of the leg, where it pursues its course along the outside of the tibia, before the exterior angle, and ends on the dorsum pedis. The other is a fixed pain in the groin, running along the inside of the thigh and leg. The former of these he calls the posterior nervous sciatica, and the latter the anterior.

He has observed that the posterior nervous sciatica is either continual or intermitting: sometimes it tortures the patient night and day with-

out any intermission; but more commonly remits now and then, and returns again at stated intervals. It is common to both to have the pain more violent in the evening; and the intermitting sciatica usually begins its attacks at this time. If the disorder becomes of long standing, the consequence will be a semi-paralysis of the affected part, which is always accompanied with a great emaciation, and an invincible lameness.

This species of the sciatica Dr. Cotunnus supposes to consist in an affection of the ischiadic nerve, which he considers as evident, not only from the seat of the disorder, but from the lameness, semi-paralysis, and tabes which follow; and he imputes the disease to an acrid irritating matter, contained in the cellular vaginæ that enclose the ischiadic nerve.

In respect to the method of cure, when the disorder was very violent and continual, blood-letting always afforded great relief to the patient; especially if a suppression of the piles or menstrual discharge had been the cause of the disease. In the former case, the pain was alleviated by applying leeches to the corona of the anus; and in the latter, great benefit accrued from soliciting the periodical evacuation at the usual time, by applying dry cupping-glasses to the

the inside of each thigh, and the proximate anterior parts. If these means should not succeed in recalling the monthly discharge, bleeding in the feet is of service ; and the author determines in favour of bleeding in the foot of the affected side, contrary to the opinion he had first entertained.

When the disorder does not disappear after blood-letting, he advises the use of an emetic in some cases ; opening the belly either by a purge or clyster, and using friction on the part affected. He expresses strong disapprobation of acrid clysters, however ; and respecting friction, advises it to be used in so cautious a manner, that it may not prove a stimulus, but only afford a gentle pressure. He commonly found his intentions answered, by gently stroking the part affected with the naked hand, which was plentifully smeared with sweet oil. The friction is to be used every morning, for a quarter of an hour at a time, after proper intervals ; by which method he has known the pains of the sciatica totally vanish by degrees.

During the prosecution of the cure, when the pain is extremely violent, he recommends the use of opium. But if the patient has been so much accustomed to this remedy, that it produces no effect, he dissuades from increasing the dose, be-

cause he has observed the ischiadic torpor augmented by that means, and advises to administer the medicine in a clyster, after cleansing the intestines.

Caustics, he also observes, are not of use in the sciatica, especially the arthritic kind ; but in the posterior nervous sciatica, he has experienced the greatest benefit from blisters, which therefore he strongly recommends.

In the anterior species of the disorder, the pain evidently follows the tract of the crural nerve. This kind of sciatica the author has often known to be exasperated at night, and also to intermit. Like the posterior, it has been found to be of longer continuance, and to grow more severe in warm weather, or by warm applications ; as well as to be more gentle in the day-time, in serene or cold weather. This sciatica is frequently observed to arise from a person's receiving a violent fall on either side ; and, according to this author, is always cured, first by occasional bleeding in the hæmorrhoidal veins or the foot, and then by loosening the belly in the morning with common clysters.

Where there is any suspicion of a venereal taint, recourse must be had to remedies accommodated to that disorder.

Having

Having described the method of cure recommended by Dr. Cotunnus, we proceed to the useful practical remarks of Dr. Fothergill. He informs us, that after various medicines and operations, prescribed for this complaint, had been used to very little purpose, he has in a variety of cases experienced singular benefit from a process like the following.

R Calom. levig. gr. x.

Conf. ros. q. s. f. pil. x. non deaur.

Capiat i. omni nocte superbibendo haust. seq.

R Aq. alexit. simp. ℥iss.

spirit ℥iss.

Vin. Antimon. gut. xxx.

Tinct. Theb. gut. xxv.

Syr. simp. ℥i.

If the pain should not abate by the time this quantity is taken, he increases the dose of calomel to two grains one night, one the next, and thus proceeds alternately. When on the contrary, the pain abates, the anodyne and antimonial are gradually lessened; perhaps omitted every other night, or entirely disused. He has seldom met with a genuine sciatica that yielded not to this process in the space of a few weeks; and it likewise as seldom returned.

When the disease was not eradicated by the dose abovementioned, he gradually encreased it till some tenderness was perceived in the mouth ; but he has rarely found occasion to proceed so far, or to subject the patient to any confinement, unless in very severe weather. As the violence of the pain may safely be mitigated by this kind of anodyne, which he considers not merely in the light of a palliative, he has always thought it better to give the calomel in the manner above mentioned, as an alterative, than to risk any thing for the chance only of a few days speedier recovery.

Sir John Pringle, who had frequent occasion to see this disease in the camp, informs us, that the common sciatica, if recent, was treated with bleeding, blistering upon the part, purges of guaiacum, and volatiles : in a word, with such remedies as were given in the common rheumatism, according as it was attended with fever or not. Nor did he find it unconquerable by such means, though for the most part it was more obstinate than other rheumatic pains. But when the pain and lameness were of an old standing, every method that was used proved unsuccessful. Sir John was afterwards informed by Dr. John Clerk, of Edinburgh, that he had removed obstinate
 sciatic

sciatic and other arthritic pains, by soap, given from half an ounce to an ounce a-day, for some months together.

Of the LOCKED-JAW, OPISTHOTONOS, and TETANUS.

THIS disorder is most frequent in hot climates, where it is often the consequence of an amputation, or sometimes even of a slight wound. It consists in a violent spasm of the muscles of the jaw, and is cured principally by large doses of opium, with which musk is sometimes joined, anodyne embrocations, and the warm bath. In the second volume of the Medical Transactions, an account is related of a case of the locked-jaw, occasioned by a wound of the ankle. After a large quantity of opium and musk had been given without success, the disorder was cured by the following means. A blister was applied between the shoulders; the whole spine and jaw were anointed with the oleum lateritium; and a purge, consisting of the tinctura sacra, jalapii, and the syr. de rhamno cathartico, was administered, and thrice repeated at the dis-

tance of three or four days. On the intermediate days the patient was ordered the ol. succini, as fætid. and the ol. amygdalinum.

The opisthotonos likewise is chiefly incident to hot climates. It often comes on gradually, and by slight approaches; the patient complaining at first of an uneasy stiffness in the back part of the neck, and about the shoulders, rather than of any acute pain, with some degree of a general lassitude. These symptoms increasing, become so troublesome when the patient attempts to turn his head, or to bend it forward, as to oblige him to walk very erect; for he cannot look downward, nor to either side, without turning his whole body. He cannot open his jaws without pain, and has some difficulty in swallowing, which discourages him from attempting to eat. At times he feels a sudden and painful traction under the *cartilago ensiformis*, which strikes through to the back, and instantly increases the rigidity about the neck and shoulders, draws the head a little backward, and shuts the jaws closer. The pain under the sternum returns more frequently and with greater violence; and the other contractions become so strong, that the head from this time continues much retracted, and the patient now refuses nourishment, as swallowing is attended with great pain, and occasions a return
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of the spasm ; the latter extending along the spine quite to the lower extremities, so that these will no longer support him, and he is under the necessity of going to bed.

In this manner passes over the first stage of the opisthoronos, which sometimes takes up three or four days ; the patient, as well as those about him, mistaking the first appearances of it for that rheumatic complaint commonly called a crick in the neck. Sometimes however it seizes much more quickly ; in which case the danger is proportioned to the violence of the attack. When this happens, the patient generally dies in twenty-four, thirty-six, or forty-eight hours, and very rarely survives the third day. But when it is less acute, it seldom proves mortal after the ninth, or eleventh day. In this stage the pulse is slow, and very hard, and the belly is bound. Blood taken away seems not to be altered from the natural state, and only varies in regard to consistence, according to the age of the person, and the season of the year.

In the second stage, the spasm under the sternum (which is the pathognomic symptom of this disease) becomes more violent, returning every ten or fifteen minutes, and never fails to be instantly succeeded by a stronger retraction of the head, with great rigidity and pain all round
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the neck, and along the spine, to the lower extremities, which are suddenly put to the stretch. The countenance is very pale and contracted, and the jaws so closely shut, as not to admit the end of one's little finger. The mastoid, corachyoid, and sternohyoid muscles, as well as all the others concerned in deglutition, and the deltoid and pectoral, are most violently contracted, so that the shoulders are strongly raised forward, and the arms are stretched out, or drawn across the body; but the wrists and fingers seem not to be affected.

Such is the condition of the patient during the spasm, which ceases in a few seconds, after which the shoulders and arms recline, and the inferior extremities relax, yet not so entirely, but that such a degree of rigidity remains, as will not permit them to bend, when this is attempted by another person; for as to the sick himself, he cannot at all move them. The muscles on the sides, and fore part of the neck, continue still contracted, though not so strongly; but their action is overcome by the number and strength of the posterior muscles, so that the retraction of the head constantly remains. The person breathes quick for some minutes, as if he had been excessively exercised; and the pulse is small, fluttering, and irregular, but both become more calm and slow.

In some, the pulse especially does not exceed forty vibrations in a minute ; in others it is more frequent than natural, and always hard. The face is sometimes pale in the intervals, but oftener flushed ; and the whole countenance expresses strong appearances of the most melancholy distrels ; as well from the dread which the person entertains of a return of the spasm, as from the pain he suffers from the present contractions, and the more general and severe ones which he has lately sustained. The tongue is stiff and torpid, but so far as it can be seen, is not foul. The urine can seldom be saved, for it is either forced away by the spasm, or voided in the bath ; but what has been seen is high coloured (probably because the patient drinks little) with a rare, dusky cloud, which does not precipitate. When the heat is moderate and equal, the pulse is slow, nor is it more intense when the pulse is quicker ; and the head is rarely complained of, though the patients mutter a little in their short slumbers, from which they are soon roused by the spasm. The belly is always bound, and cannot easily be loosened. In drinking, the liquid passes with great difficulty to the stomach, even in the smallest quantity ; and if the spasm should seize the patient at that time, which an attempt to swallow for the most part occasions,

occasions, the liquor returns through the nose with some force. Blood taken away in this stage never shewed any appearance of an inflammatory disposition, but was rather of a dissolved texture, with florid and dusky streaks interspersed on the surface. In general, the patients are desirous of lying still as much as possible, and avoid drinking, speaking, or being moved; any of which is apt to occasion a return of the spasm. Others however require to be turned, in the hope of procuring a more favourable posture; but this never fails to produce an attack of the convulsion, by which the head is drawn back to the spine, and is best prevented by lying on the back.

In the third stage, the patient is reduced to the most distressful circumstances; for he is racked with the violent spasm, which returns oftener than once in a minute. The anterior muscles of the body now suffer equal contractions with the posterior; but the latter overcome the force of the others, so that the spine is strongly recurvated, forming a hollow arch with the bed, while the patient rests on the back part of the head and the heels. The belly is flat, and is drawn inward, and the muscles are so rigidly contracted, that they will not yield to pressure, nor apparently to the diaphragm in inspiration; the several muscles
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about the neck, sides, and abdomen, being plainly distinguishable. Though the lower extremities be always rigid in this state, yet they are so suddenly and violently distended in the time of the spasms, that were it not for the by-standers, the patient might be projected feet foremost off the bed, while others are as it were pushed upwards with such a spring, that the head is struck with great force against whatever happens to be in the way; the thighs and legs being in this case no less rigid than the other parts. The tongue is spasmodically darted out, and is often miserably torn, as the teeth are suddenly snapped together; so that it is necessary to prevent this effect by keeping the handle of a spoon wrapped round with soft rags between the teeth, when this can be done. At the same time that the tongue is thrust out, the muscular flesh, which lies between the arch of the lower jaw and the head of the trachea, seems to be drawn upwards within the throat. The countenance is very much contracted, and the patient sweats profusely, the heat being very great. The pulse between the spasms is exceeding quick, small, and irregular, though the heart throbs so strongly, that its motions may be plainly seen; and a palpitating subsultory kind of undulation may not only be felt, but perceived all over the epigastric region. The
eyes

eyes are watery and languid, and a pale or bloody froth bubbles out from between the lips. The jaws are for the most part locked fast, so that it is impossible to give drink or nourishment; nor if any thing was put into the mouth, could it now be swallowed. In this state the patients are commonly delirious, and as they cannot subsist many hours under so great a suspension of the natural and vital functions, a mortal anxiety ensues, which releases them from their distress. Oftener a continued and severe spasm, but more frequently a general convulsion, puts an end to the tragedy; and which ever way this happens, they for the most part relax just before death.

In the tetanus, the general symptoms are nearly the same as in the opisthotonos, except that, from the first attack, the lateral, abdominal, and other anterior muscles, are equally contracted with the posterior; and the arms, as well as the lower extremities, become rigid. The abdomen is always flat and rigid, as in the last stage of the opisthotonos, and its contents seem to be thrust up into the thorax, which at the same time appears to be much dilated. Here also are some intervals between the spasms, in the time of which the cheeks are drawn towards the ears, so that all the teeth may be seen, as in the *spasmus cynicus*. Deglutition is more free in this than in the other disease;

disease ; yet so far is the sick from being equally balanced between the contractions of the opposite muscles, that the head is retracted, and the spine recurvated, though not quite so much as in the opisthotonos. The spasm which commences under the sternum, is likewise common to the tetanus, which terminates as the foregoing disease, and on the same fatal days. But whoever recovers from either, labours long under a general *atonia*, and they cannot for some months raise themselves from a supine or recumbent posture, without pain, nor for some time without help.

Nothing like a natural crisis ever happening in these disorders, the patient's recovery must depend entirely on medicine, in the choice of which all very heating and stimulating things administered internally, or outwardly applied, are to be avoided ; particularly blisters, which have a most pernicious effect. Mild purgatives, joined with temperate diaphoretics, have been given gradually, and continued until they had operated, without any advantage ; nor did vomiting, which was excited by the kermes mineral, answer any good purpose, though much bile was thrown up. Worms have in some been voided both ways without affording any relief. A physician who had frequently seen these disorders, informs us, that he had not tried musk, but was of

opinion, that after the violence of the spasm has been abated by opium, it might be given in large doses with good effect.

If the sick is plethoric, bleeding at the beginning of the second stage (and the physician is seldom called sooner) is necessary; not because it has ever procured any abatement of the symptoms, but that by emptying the vessels, the patient will better support the effects of the warm bath and opiates, from the use of which his recovery is wholly to be expected. For patients in this disease can seldom swallow any thing till after bathing, by the warmth of which the contractions remit. As deglutition becomes more free, drink nourishments are then to be given through the spout of a tea-pot, which is the easiest way of feeding them in those diseases.

If the weather be warm, and the pulse quick, with a preternatural heat of the skin, the warmth of the water in the bath should not exceed the 96th or 98th degree on Fahrenheit's thermometer. But when the pulse is slow, with little heat, it ought to be so warm as to raise the mercury to the 100th, or 102d degree, especially if the weather be cold. While the patient is in the water, gentle friction should be used, especially about the neck, breast, and along the spine, so far as it can be come at; and he is to be kept in the bath

bath till the pulse become soft and full. When taken out, he is not to be wiped dry, but must be wrapped immediately in a dry blanket, and put to bed, in which, for the most part, he sweats freely. But if the sweat should prove too profuse, especially if the pulse becomes very frequent and contracted, with an intense heat of the skin, it is to be discouraged by rubbing the skin dry with a warm cloth.

It is to be observed that the person should lie at full length in the tub, having under his head a blanket rolled up for a pillow, and, except his face, he ought to be covered with the water; a due heat of which must be kept up by supplying warmer water as it cools in the bath.

If no gentle opiate has been given when the patient was in the bath, let him soon after take a large dose, which ought to be repeated boldly every half hour, or at such intervals as to allow time to judge of the effect of the preceding dose. In this manner the use of the opiate is to be continued, until the spasm under the sternum ceases, which is soon followed by a remission of the contractions. But as both will most certainly return when the effect of the opiate vanishes, the latter must be repeated in due time to prevent them; of the necessity for which the patient will have sufficient warning, by his being sensible of the

gradual approach and increase of the pain, as the operation of the opium declines. By thus repeating the medicine, the spasm will be prevented, the contractions will cease, and the pulse become soft, full, and regular, with an equable moisture diffused over the whole surface, in proportion to which promising appearances, the quantity of the opiate may be diminished, and given likewise at longer intervals; but the use of it may be necessary many days.

It must be observed, that to suppress this spasm, much larger doses of opium are requisite, than perhaps in any other disease; so that the quantity to be given cannot be defined, but must depend entirely upon the effect it produces. Two hundred drops of the *tinctura opii* have been given for a dose, which will not keep the patient easy three hours; and some will take more than an ounce of this tincture in a day and night, without being affected with a *stupor* by it. Such excessive quantities of opium, however, ought not to be ventured on, till smaller doses prove ineffectual. But in general, it will be found necessary to give it very freely.

Besides opiates and the warm bath, glysters prepared with a decoction of camomile flowers, mallows, &c. to which a large proportion of oil is added, ought to be frequently injected, not
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only to empty the guts so far as they can reach, but as an internal *fetus*, to relax, as much as possible, the constriction of the *viscera*, which are equally affected with the spasm as the other parts. A bladder half filled with warm water, and tied close, should always be kept on the pit of the stomach, when the patient is in bed ; and the rigid parts, so far as they can be come at, should frequently be bathed with warm oil of mucilages, to which is added some opium, with a gentle and continued friction.

The same method of cure is to be used in the tetanus ; and the abdomen may be often fomented with large flannels, squeezed out of an emollient decoction, as the patient lies in bed, taking care to prevent the cloaths about him from being damped by the steam.

During the severity of the disease, the sick may drink a decoction of figs, liquorice, and fennel-seeds, sage-tea, very weak-wine whey, or any such mild diaphoretic liquid ; and for nourishment may be given thin strained gruel, panada, or weak broth. But after the contractions have ceased some days, a little canary, or some other soft wine, ought to be added to the gruel now and then, and the broths should be made stronger, of which the patient will much stand in need, to recruit his strength.

As the belly is commonly bound in those diseases, it is proper, some days after the spasm has disappeared, to endeavour to prevent any new disturbance from the irritation of any bile or other humour, which may acquire an acrimony by lying so long in the intestines. For this purpose a solution of manna, regenerated tartar, with a little saffron, and some treacle-water, may be given in small doses every hour, and continued till a stool is procured, when the medicine is to be laid aside, as one or two moderate discharges genenerally follow the first. By this cautious method the end is obtained, without fatiguing the patient, and no new spasm can be excited by so lenient and diaphoretic a laxative.

Of the P A L S Y.

THE palsy being a disease supposed to depend upon obstructions of the finest vessels of the body, the cure of it must be in many cases unattainable by the most active and penetrating medicines that have been hitherto discovered. A number of instances, however, confirms

confirms the extraordinary benefit experienced from electricity, the application of which is the most essential improvement invented by the moderns in the cure of this disorder.

Of the S C U R V Y.

NO part of phyfic has been more improved of late years than what relates to the scurvy, which, from being a most destructive disease to seamen on long voyages, seems now to be divested of all its terrors. The proximate cause of this disease is found to be a putrid disposition of the fluids, occasioned by corrupted aliments, the long continued use of salt provisions, and the breathing of foul air. It is easily and effectually cured by an antiseptic regimen, without the assistance of medicines; or if any such be required for the more speedy recovery of the patient, the bark, elixir of vitriol, infusion of malt, and the antiscorbutic herbs are the remedies which have proved most successful. In captain Cooke's last circumnavigation, the scurvy was entirely prevented from making its appearance among the

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seamen, by sound or fresh provisions, the free use of acids, and keeping the apartments of the ship as much as possible clean and dry.

Of the VENEREAL DISEASE.

VARIOUS attempts have been made within these thirty years to improve the method of cure in the lues venerea. Some practitioners have affirmed that the disease may be totally extirpated without the use of mercury; but excepting in slight cases, it appears from the most accurate observations that this grand specific is indispensable. Salivation, however, which was formerly so much used, is now almost generally exploded, on account of its severity. The solution of the corrosive sublimate, which had been recommended upon the authority of baron Van Swieten, was for a few years greatly employed; but as its reputation had not been established upon just and accurate observations, it has since lost all its celebrity. It was seldom ever found to perform a radical cure; and the frequent use of it proved in many cases highly prejudicial. It has been succeeded in practice by
 Plenck's

Plenck's remedy, which consists of quicksilver extinguished with gum arabic, to prevent it from salivating. The method of curing this disease by fumigation has lately been much recommended in France, but seems not to meet with great encouragement. The most recent proposal for the cure of the venereal disease, is that of Mr. Clare, and consists in rubbing a small quantity of mercury on the inside of the cheek; by which means we not only avoid the inconveniencies of unction, but the purgative effects that are often produced by this medicine, when taken into the stomach.

Of the MEANS of RECOVERING PERSONS DROWNED, and APPARENTLY DEAD.

THE late establishment of a society in London for promoting the recovery of persons who have been drowned, is an institution which reflects honour on the humanity of the times. This laudable example has already been imitated in Scotland, where the lords of the police have exerted their influence for rendering it general over the kingdom; and in a letter on this subject, from Dr. Cullen to the late lord

Cathcart, we meet with many suggestions that are worthy of attention.

The Doctor sets out with observing, that, from the nature of things, such persons are more generally in a recoverable state than has been imagined. In support of this opinion, he remarks, that in men, and other animals, life does not immediately expire upon the cessation of the action of the lungs and heart, and the consequent stagnation of the blood. That though the functions of the arterial system be necessary to the maintenance of life, the living state of animals depends not upon the exertion of those alone, but principally upon a certain condition in the nerves, muscles, and fibres, by which they are sensible and irritable, and on which the action of the heart itself is dependent. This condition, therefore, he considers as the vital principle in animals; observing, that as long as it subsists, or can be restored to its activity and vigour, while the organization of the parts remains entire, there is a possibility of the functions of life being revived, even though they have ceased a considerable time. The precise period, however, to which such a condition may extend, he pretends not to determine; but he concludes from analogy, that it may subsist very long, and appeals, in support of this inference, to the many well attested facts
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of the recovery of drowned persons who have been some hours in an apparent state of death.

Dr. Cullen farther observes, from the dissection of drowned men, and other animals, that very often the water does not enter the cavity of the lungs, nor even the stomach, in such a quantity as to prove prejudicial; that, in most cases, no injury is done to the organization of the vital parts. From these considerations, he thinks it probable, that the death which ensues, or seems to ensue in drowned persons, is entirely owing to the stoppage of respiration, and the consequent cessation of the blood's motion, whereby the body loses its heat, and with it the activity of the vital principle. But as this heat and activity are in many cases recoverable by various means, the endeavours to effectuate a renovation of the functions of life ought never to be too early abandoned.

Previous to the means recommended for the recovery of drowned persons, Dr. Cullen dissuades from those practices hitherto reckoned salutary, upon the supposition that the death of the person was occasioned by a quantity of water being taken into the body; such as hanging up the patient by the heels, setting him on the crown of the head, rolling him upon a cask, and the like expedients, which may prove the means of burst-
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ing some vessel in the brain or lungs, and of rendering cases incurable, which might have been remedied. He allows, that where the natural heat is not entirely extinguished, and where the irritability of the moving fibres is not greatly impaired, brisk agitation may be the only means necessary for restoring the action of the vital organs; but he asserts, that, in all cases, violent concussion can never be safe, and is never necessary. He therefore advises, that, even in transporting the body from one place to another, it be kept stretched out, laid upon one side, with the head and upper parts a little raised, care being taken to avoid the neck's being bent much forward, or any other posture exposing to an improper compression. When laid upon straw in a cart, in the manner described above, he allows that, in most cases, a brisk motion will do no harm.

For effecting a recovery, he considers the restoration of heat as the first and most essential measure that ought to be pursued. With this view, he advises that the body, if not naked at the time of the accident, should be immediately stripped, and wrapped in warm blankets, if the air be cold. But if the sun shines out very hot, he thinks that the naked body, after being carefully dried, may be exposed to it with advantage.

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As another means for the recovery of heat, he advises, where the situation of the accident will permit, that the body be immersed in a warm bath. At breweries, distilleries, or the like, a sufficient quantity of warm water may in general be immediately obtained. Even in small villages, where a convenience of this kind is wanting, it may be had in a very short time, by many fires being at once employed in heating small quantities. He advises that the temperature of the water, in which the body is at first immersed, be somewhat under its natural heat, and that by the addition of warm water, it be raised gradually to a heat a little above it. Another means by which the body may be conveniently warmed, particularly if it be of a small size, is by a persons lying in bed with it, taking care to turn it frequently, and to rub attentively those parts not in contact with the warm body.

When these rules cannot be followed, Dr. Cullen recommends careful friction with coarse cloths well warmed, and the application of hot bricks, or bottles filled with warm water, to the feet. He dissuades from friction with spirits, as proving an impediment to the rubbing ; and he thinks that nothing farther in this way is admissible, than the application of vinous spirit of sal ammoniac, to the wrists and ancles only. It has
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been a common practice to cover the body with warm grains, ashes, salt, sand, and the like; but these he imagines can seldom be obtained in such cases, and they may also interfere with other more essential measures.

Next to the recovery of heat, Dr. Cullen thinks that endeavours should be directed for restoring the action of the moving fibres. As the intestines, both from their internal situation, and peculiar constitution, retain irritability the longest, he thinks that stimulants will have more effect when applied to them, than to any other part. The action of the intestines will, he imagines, be most effectually excited by distension with air. Heated air is preferable to cold. But farther advantages may be obtained by impregnating the air with something which, by its acrimony, may have great effect in stimulating. He therefore recommends that the smoke of tobacco be thrown into the intestines by a fumigator of a particular construction, and which for this, as well as other purposes, ought to be in the hands of every surgeon. Where tobacco smoke, or warm air, cannot be thrown in, he advises the injection of warm water, to the quantity of three or four English pints; half an ounce of common salt being dissolved in each pint, and a little brandy or wine added to it.

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The third intention of cure which Dr. Cullen proposes, is the restoration of the action of the lungs and heart. Means for this purpose may be used while the measures already proposed for restoring the heat of the body, and the activity of the moving fibres are employed. They are however more particularly necessary, after the former have been used some time. For restoring the action of the lungs, it is necessary that they be inflated. On this subject Dr. Cullen acknowledges his obligation to Dr. Monro, who has made many experiments for ascertaining the method in which it may be done most advantageously. Dr. Monro has found, that it may be much more conveniently effected, by blowing into one of the nostrils, than by blowing into the mouth. He has also found, that, with the assistance of a wooden pipe, fitted at one extremity for filling the nostril, and at the other for being conveniently blown into, a person of ordinary strength will be able to inflate the lungs to a sufficient degree. He thinks, that at first, warm air from the lungs of a living person, will be most conveniently employed. But where long inflation is requisite, a pair of bellows must be used, large enough to contain at once the quantity of air necessary to inflate the lungs to a due degree. While blowing is practised, the passage of air
into

into the stomach, by the gullet, may be prevented by gently pressing the head of the wind-pipe backwards, as thus the gullet will be straitened, while the passage through the larynx remains open. The other nostril and the mouth must, at the same time, be accurately closed, to prevent the air from escaping by those passages. When the blowing has produced a sufficient distension, the air must be expelled, by pressing the breast and belly, and thus imitating, as exactly as possible, the alternate motions of natural respiration.

Where the lungs cannot be inflated by blowing into the nostril, Dr. Monro maintains, that a crooked tube, resembling the catheter used for a male adult, may be introduced directly to the trachea. For this purpose, the surgeon should place himself on the right side of the patient, and introducing the fore-finger of his left-hand at the right corner of the patient's mouth, he should push the point of it behind the epiglottis, and using this as a directory, he must enter the tube, which he holds in his right-hand, at the left corner of the patient's mouth, till the end of it be passed beyond the point of his fore-finger; and it is then to be let fall, rather than pushed into the glottis. This practice, while it is equally certain, is doubtless much preferable to bronchotomy,

tomy, which, however, Dr. Cullen allows may be tried, where a skilful operator is at hand. But he supposes that it will hardly be of any advantage where the blowing into the nostril has entirely failed. By blowing into the lungs, respiration may not only be renewed, but that frothy matter, which is found in the chests of drowned persons, and which the author supposes to be the most common cause of their suffocation, may be expelled. He therefore advises that it should be assiduouſly continued, in the manner directed, for an hour or two together.

These, according to Dr. Cullen, are the means chiefly to be depended upon, for the recovery of drowned persons; but he also mentions some others which may at times prove of considerable service. The opening of the jugular veins may relieve congestion in the head, and where a livid, or purple colour of the face occurs, it is indicated. But, when some motion is excited in the blood, this evacuation must be made with great caution, lest it should weaken the recovering powers of life.

Stimulants applied to sensible parts of the body, such as holding quick-lime, or spirit of sal ammoniac to the nose, or putting a little of it, on a rag, into the nostrils, will sometimes be useful for recovering the activity of the vital principle.

ple. It has also been common to pour wine or brandy into the mouth ; but till some marks appear of the recovery of swallowing and respiration, Dr. Cullen justly considers this practice as dangerous. As soon as the power of swallowing is restored, he thinks there can be no objection to an emetic, which will be servicable, from the action of vomiting proving a stimulus to the whole system. As an emetic, he recommends the tincture of ipecacuanha, given by teaspoonfuls, till it produces its effect. Respecting stimulants in general, he observes, that, where the heat and irritability are but little impaired, a recovery may often be effected by these alone ; but when the body has lain long in water, and the heat is very much obliterated, he thinks that the application of any other stimulant than that of tobacco smoke to the intestines, can be of very little service ; and that other measures ought never to interfere with those which are to be used for recovering heat and the motion of respiration.

He concludes with observing, that the proper means should be employed for several hours together, unless it happens, that, while no symptoms of returning life appear, those of death continually increase. He adds, that many of the measures here proposed for the recovery of drowned persons, will be equally proper in other

cases of suffocation ; for example, when it arises from strangling, the damps of mines, the fumes of charcoal, or similar causes.

To the proposals of Dr. Cullen, we shall subjoin those of the ingenious Mr. Hunter, which were drawn up at the request of a member of the society for the recovery of persons apparently drowned. Mr. Hunter's ideas on this subject differing considerably from all those who have treated of it, he thinks it necessary, for their being more clearly understood, to state some preliminary propositions.

First, he affirms, that while an animal retains the powers, though deprived of the actions of life, the cause of that privation may frequently be removed ; but, when the powers of life are destroyed, the action ceases to be recoverable. Secondly, Mr. Hunter considers part of the living principle to be inherent in the blood. And, lastly, he observes that the stomach sympathises with every part of an animal, and that every part sympathises with the stomach. Therefore, whatever acts upon the stomach as a cordial, or rouses its natural and healthy actions, and whatever affects it so as to produce debility, has an immediate effect upon every part of the body. Besides this universal sympathy between the stomach and all parts of the body, there are also peculiar sym-

pathies. Thus the heart sympathises immediately with the lungs. If any thing is received into the lungs immediately destructive of animal life, such as the volatile part in the burning of charcoal, volatile vitriolic acid, and many other well known substances, the motion of the heart immediately ceases, much sooner than if the trachea had been tied ; and it appears from experiments, that any thing salutary to life, applied to the lungs, will restore the action of the heart after it has been suspended some time.

Mr. Hunter divides violent deaths into three kinds. The first is, where only a stop is put to the action of life in the animal, not, however, by any irreparable injury to a vital part. If this action be not restored in a certain time, it will be irrecoverably lost. The second is where an injury is done to a vital part. And the third is where death instantly takes place in every part, as is often the case in strokes of lightning.

Mr. Hunter is of opinion that the death produced by drowning falls under the first consideration abovementioned, viz. where only a stop is put to the action of life in the animal, without any irreparable injury to a vital part ; and upon this principle he proceeds to investigate the subject.

The

The loss of motion in drowning seems to arise from the loss of respiration, and the immediate effects this has upon the other vital motions of the animal; at least, this privation of breathing appears to be the first cause of the cessation of motion in the heart. It is most probable, therefore, Mr. Hunter observes, that the restoration of breathing is all that is necessary to restore the heart's motion. For, if a sufficiency of life still exists to produce that effect, we may suppose every part equally ready to move the very instant in which the action of the heart takes place, their actions depending so much upon it. What makes it very probable that the principal effect depends upon air being thrown into the lungs, is, that children in the birth, when too much time has been spent after the loss of that life which is peculiar to the foetus, lose entirely the disposition for the new life. In such cases there is a total suspension of the actions of life, the child remains to all appearance dead, and would die, if air was not thrown into its lungs, and the first principal of action by those means restored. To put this in a yet clearer light, Mr. Hunter delivers the result of some experiments made upon a dog in the year 1775.

A pair of double bellows was provided constructed in such a manner, as by one action to throw fresh air into the lungs, and by another to suck out the air which had been thrown in by the former, without mixing them together. The muzzle of the bellows was fixed into the trachea of a dog, and, by working them, he was kept perfectly alive. While this artificial breathing was going on, the sternum was taken off so as to expose the heart and lungs: the action of the heart continued as before, only was much increased in frequency. Mr. Hunter then stopped the motion of the bellows, and observed the heart became gradually weaker, and less frequent in its contraction, till it entirely left off moving. By renewing the operation, however, the heart began again to move; at first very faintly, and with longer intermissions; but, by continuing the artificial breathing, the motion of the heart became again as frequent and strong as before. This process was repeated upon the same dog ten times, sometimes stopping for five, eight, or ten minutes. Mr. Hunter observed, that every time he left off working the bellows, the heart became extremely turgid with blood, and the blood in the left side became as dark as that in the right, which was not the case when the bellows were working.

working. These situations of the animal, our author remarks, appear exactly similar to drowning.

When assistance is called in soon after immersion, blowing air into the lungs, Mr. Hunter observes, may in some cases effect a recovery; but when any considerable time has been lost, he advises stimulant medicines, such as the vapour of volatile alkali, to be mixed with the air; which may easily be done, by holding spirits of hartshorn in a cup under the receiver of the bellows. And, as applications of this kind to the olfactory nerves tend greatly to rouse the living principle, and put the muscles of respiration into action, it may probably, therefore, be most proper to have air impregnated in that manner thrown in by the nose. To prevent the stomach and intestines from being too much distended by the air, the larynx is directed to be gently pressed against the œsophagus and spine.

While this business is going on, an assistant should prepare bed-cloaths, carefully brought to a proper degree of heat. Heat Mr. Hunter considers as congenial with the living principle; increasing the necessity of action, it increases action. Cold, on the other hand, lessens the necessity, and, of course, the action is diminished. To a

due degree of heat, therefore, the living principle, he thinks, owes its vigour. He says, it appears from experiments to be a law in animal bodies, that the degree of heat should bear a proportion to the quantity of life; as life is weakened, this proportion requires great accuracy, while greater powers of life allow it greater latitudes.

After these, and several other observations on the same subject, our author proceeds to more particular directions for the management of drowned people.

If bed-cloaths are put over the person, so as scarce to touch him, steams of volatile alcali, or of warm balsams, may be thrown in, so as to come in contact with many parts of the body. And it might probably be advantageous, Mr. Hunter observes, to have steams of the same kind conveyed into the stomach. This, we are told, may be done by a hollow bougie, and a syringe; but the operation should be very speedily performed, as the instrument, by continuing long in the mouth, might produce sickness, which our author would always wish to avoid.

Some of the warm stimulating substances, such as juice of horse-raddish, peppermint-water, and spirits of hartshorn, are directed to be
thrown

thrown into the stomach in a fluid state, as also to be injected by the anus. Motion possibly may be of service, and may at least be tried; but as it has less effect than any other of the commonly prescribed stimulants, it is directed to be the last part of the process.

The same care in the operator, in regulating the proportion of each of those means, is directed, as was formerly respecting the application of heat. Every one of them, Mr. Hunter observes, may possibly have the same property of entirely destroying the feeble action they have excited, if they be administered in too great a quantity. Instead, therefore, of increasing and hastening the operations on the appearance of the first signs of returning life, as is usually done, Mr. Hunter desires they may be lessened, and advises their increase to be afterwards proportioned, as nearly as possible, to the quantity of powers as they arise.

When the heart begins to move, the application of air to the lungs should be diminished, that, when the muscles of respiration begin to act, a good deal may be left for them to do.

Mr. Hunter absolutely forbids blood-letting in all such cases; for, as it not only weakens the animal principle, but lessens life itself, it must consequently, he observes, lessen both the powers and dispositions to action. For the same reason he is against introducing any thing into the stomach that might produce sickness or vomiting; and on this principle likewise, he says we should avoid throwing up the anus tobacco fumes, or any other thing that might tend to an evacuation that way.

A P P E N D I X.

CONTAINING

A short ACCOUNT of the principal
REMEDIES which have been introduced,
or their USE extended, of late
YEARS.

AIR (Fixed.)

SINCE the publication of the valuable discoveries made by Dr. Priestley relative to fixed air, many experiments have been instituted to ascertain the effects of this element in a variety of disorders. In particular, it has been found of great advantage in putrid diseases, the ulcerous sore throat, gangrene, pulmonary consumptions, cachexies, phagedenic ulcers, in diseases proceeding from a weakness of the stomach, and in the stone and gravel.

Fixed air may be administered in various ways, viz. by the mouth, by clysters, by a proper apparatus determining it upon the diseased parts, or by mixing it with the air of the chamber, so as to be freely and constantly respired.

Common water may be artificially impregnated with fixed air by different methods.

Water may be saturated with the fixed air of chalk, detached by the acid of vitriol, according to the directions given by Dr. Priestley; or it may be impregnated with fixed air by the assistance of Dr. Nooth's elegant glass apparatus.

Dr. Priestley mentions another method of saturating water with fixed air, which is, to take two vessels, and to keep pouring the water from one into the other, when they are held as near as possible to the yeast of some fermenting liquor.

The duke of Chaulnes proposes a method also of expeditiously saturating large quantities of water with the fixed air which is accumulated on the surface of fermenting liquors. A vessel containing eight or ten gallons of water, is to be let down and suspended near the surface of the fermenting liquor; and the water is then to be powerfully agitated by a contrivance resembling the mill of a chocolate-pot. It has been found, that by this method, thirty or forty pints of water may be saturated with fixed air in one minute.

ANTIMONIALS.

ANTIMONIAL medicines, particularly emetic tartar, constitute one of the greatest improvements in the modern *Materia Medica*. This preparation is not only celebrated for the efficacy of its emetic power, but also when joined, in a smaller dose, with diaphoretics, is found to be a remedy highly valuable in the early stages of most acute distempers. The use of it becomes daily more general in extemporaneous prescription, and hardly any medical writer, of the present time, is not lavish in its praise.

ARNICA.

ACCORDING to a number of experiments made by Dr. Collin, at Vienna, the flowers of arnica prove highly beneficial in putrid and intermitting fevers; in which diseases it is said to exceed even the Peruvian bark in efficacy. The same author has also discovered

discovered that the root of arnica possesses extraordinary virtues in the cure of the dysentery and the gangrene.

BARK (Peruvian.)

WITHIN the period which is the subject of this work, the use of the Peruvian bark has been greatly extended in practice. By some physicians, it is now given in all fevers that are not actually inflammatory, even without waiting for a remission of the symptoms; but where a remission takes place, or a great abatement of the fever, accompanied with hypostatical urine, it is administered universally. In mortifications, the secondary fever of the small-pox, and in all putrid diseases, its efficacy is fully established; as it likewise is in the scrophula, and all complaints arising either from a viscosity or tenuity of the fluids, attended with a relaxed habit of body. In the various disorders that proceed from relaxation, according as particular organs may happen to be principally affected, it has acquired the greatest reputation: nor is it less distinguished for its efficacy in all periodical complaints.

complaints. In young children, where it cannot be given as a febrifuge in the usual way, it has of late years been applied externally with great success, by means of quilted waistcoats.

BLISTERS.

THOUGH blisters seem to have been known in the earliest ages of physic, and they are now almost universally employed, yet the theory of their action, as well as the mode of their operation, remains a subject of controversy. Hence different opinions have been entertained concerning the diseases in which they are indicated, the time of their application, and the parts to which they ought to be applied. Besides the various cases in which they were formerly used, modern practice has ascertained their utility in spasmodic disorders, in inflammations of the stomach, intestines, and other parts; as also in coughs, attended with fever, pain in the side, and a pituitous infarction of the lungs. A blister applied to the os sacrum, has likewise been found to remove incontinence of urine.

CARROT

CARROT POULTICE.

A Cataplasm of carrots has been applied with great success to ulcerated cancers. It has considerably assuaged the pain, and diminished the inflammation; but the quality for which it is most remarkable, is correcting the intolerable stench frequently attending such ulcers; a circumstance of no small consequence, both in respect of the patients themselves, and the persons who attend them.

CASTOR OIL, or OLEUM RICINI.

Notwithstanding this medicine appears to have been known to Dioscorides and Pliny, who gave it the name of oleum cicutinum, and it had long been prescribed in the West Indies for bilious disorders, as a mild and efficacious purgative, it has hitherto been denied a place in the *Materia Medica*; but it is now much used in practice.

This

This is the product of the *ricinus Americanus fructu racemoso hispido*, of Sir Hans Sloane; the same plant with that to which the Spaniards and Portuguese give the name of *ficus infernalis*. The oil is prepared from the seeds, which are collected ripe, when most replete with this pinguious juice, after being cleansed from their surrounding husks. The seeds are bruised in a mortar, and beat into a paste, which being boiled in a sufficient quantity of water, the oil rises to the surface, and is skimmed off. Others prepare it by expression, which is doubtless a preferable method.

The castor oil lubricates, and blunts acrimony, whilst it softens the fœces, and stimulates the intestines to perform their office. With this view it is prescribed in obstinate constipations, and the dry belly-ach. The common method of giving it, is a table-spoonful every hour; and the third or fourth spoonful most frequently produces a stool.

Warm diluting liquors ought to be plentifully drank with it, as with other mild purgatives; over which it has the advantage of being effectual in less quantity, and consequently a better chance of remaining on the stomach.

When

When the stomach is squeamish, or the oil has been unsuccessfully given by the mouth, it makes a proper ingredient in emollient clysters.

In affections of the kidneys, where is commonly a necessity of emptying the bowels, nothing answers better than this oil, either in clysters or by the mouth; for while it removes the pressure of indurated fæces, it relaxes, and proves emollient to a great degree.

Notwithstanding the efficacy of this medicine in the most obstinate complaints, it acts so mildly, that it is often given to new-born infants in about a tea-spoonful for a dose; nor does any thing more effectually discharge the meconium, so commonly the occasion of gripes and convulsions in that tender age.

CICUTA.

UPWARDS of twenty years ago the cicuta, or hemlock, was celebrated for the extraordinary virtues ascribed to it in cancerous and scrofulous disorders, by Dr. Stork, at Vienna. It has accordingly been tried in a variety of cases, and though it has not, in general, produced

duced such effects as to establish the character it had acquired, it deserves, however, to be regarded as a valuable medicine. Dr. Fothergill acknowledges, that he has found it beneficial in various obstinate complaints; and though he cannot produce one instance of a cancer cured by the cicuta, yet he has known several in which the pains have been mitigated for a time, the progress checked, and the discharge changed for the better in respect of colour, smell, and consistence.

The accounts, occasionally published, of the numerous trials made of it by others, in different parts of Great Britain, coincide, in general, with the observations of Dr. Fothergill.

In Ireland, likewise, according to Dr. Rutty, it has undergone a variety of trials, both in the internal use of the extract, and externally. In scrofulous tumours, its efficacy has been ascertained as a discutient, attenuating, and resolving medicine. Some of those tumours it completely dissolved, and the cure stood for several seasons. In others the patients frequently suffered a relapse, especially in the spring of the year.

In cancerous cases, he informs us, that it cannot be accused of any ill effects, except that, in a few, it affected the nervous system, some-

times palled the appetite, and in many produced no sensible change. But in many others it retarded the progress both of occult and ulcerated cancers, lessened the tumours, alleviated the pain, mended the discharge, changing it from a thin, ichorous, and foetid condition, to a state more resembling laudable pus, and disposed the part to heal.

Dr. Fothergill is of opinion, that much of the extract of hemlock has been made at a season before the plant had attained its full vigour. The proper time for collecting the hemlock, seems to be the exact period when the flowers fade, the rudiments of the seeds become observable, and the plant inclines to yellow. It has then had the full benefit of the summer heat; and the plants that grow in exposed places will generally be found more virose than those that grow in the shade.

In respect to the manner of preparing this extract, the less heat it undergoes the better. Therefore if a considerable quantity of the dry powder of the plant, gathered at a proper season, is added, the less boiling will be necessary, and the medicine will be more efficacious.

But let the extract be prepared in what manner it may, provided it is made from the genuine plant, at a proper season, and is not destroyed by

by boiling, the chief difference, observable in using it, is that a larger quantity of one kind, than of another, is required to produce a certain effect. Dr. Fothergill has found that twenty grains of one sort of extract have been equal, in point of efficacy, to thirty, nay, near forty of another, yet both of them made from the genuine plant, and most probably prepared with equal fidelity.

To prevent the inconveniencies arising from this uncertainty, it is proper to begin with small doses, and proceed gradually, till the extract produces certain effects, which seldom fail to arise from a full dose.

These effects are different in different constitutions. But, for the most part, a giddiness of the head, and motions of the eyes, as if something pushed them outwards, are first felt: a slight sickness, and trembling agitation of the body; a laxative stool or two. One or all of these symptoms are the marks of a full dose, let the quantity in weight be what it will. At this time it is proper to suspend the use of the medicine, till none of these effects are felt, and, in three or four days, advance a few grains more. For it is generally agreed, that the cicuta seldom procures any benefit, though

given for a long time, unless in as large a dose as the patient can bear, without suffering any of the inconveniencies abovementioned.

Patients commonly bear a greater quantity of the extract at night, than at noon ; and at noon than in the morning. The method which Dr. Fothergill commonly followed, was to order two drachms to be divided into thirty pills, not gilt. Adults begin with two in the morning, two at noon, and three or four at night, with directions to increase each dose, by the addition of a pill, as they can bear it.

The extract of hemlock, given in this manner, is apparently anodyne ; it eases pain, and promotes rest. It seldom excites thirst, or that kind of morning head-ach, which succeeds an opiate of any kind. It also seldom occasions costiveness ; but, in most, it procures a laxative stool the day following.

In some habits very small doses offend the stomach, excite spasmodic twitchings, heat, and thirst ; in which cases there seems reason to forbid its use.

C O L U M B O - R O O T.

WITHIN these few years columbo-root has been introduced into practice as a stomachic. It appears from several trials to be a valuable medicine; but neither its peculiar virtues, nor even its natural history, are hitherto clearly ascertained.

I P E C A C U A N H A.

THIS valuable medicine has long been used as an emetic, in doses of twenty, twenty-five grains, or upwards; which was a quantity that sometimes operated with a great deal of violence. But it is now found, that to persons of every age, of either sex, in any stage of any disease where emetics are indicated, though the patient be in the weakest circumstances; from half a grain, to four or six grains, may be given with the utmost safety, and generally with success; it seldom failing to answer the intention of the prescriber, where there is a disposition to puke.

Ipecacuanha has also been found of efficacy in curing, or assisting in the cure of diarrhœas, particularly in children, when administered in clysters. In the dysentery, likewise, it has proved extremely successful.

MERCURY (Corrosive Sublimate.)

UPWARDS of twenty years ago, this medicine was recommended for the cure of the venereal disease, by the celebrated baron Van Swieten. It was given dissolved in malt-spirits, or in French brandy, in the proportion of one grain of the mercury to two ounces of the spirits.

The dose was from a common spoonful, or half an ounce, to two spoonfuls, twice a-day, adjusting the quantity to the strength of the patient, and virulence of the disease. The operation was commonly by sweat or urine, especially when the medicine proved most successful. The solution was to be continued as long as any symptoms remained; and during the cure, the patient was ordered to use a low diet, and drink plenty of barley-water, with

a little milk, or some such diluting liquor. The many objections against salivation for the lues venerea, rendered the new method of cure universally acceptable, and it was therefore adopted with great avidity. The instances of its success were numerous. It was extolled for the speediness, the safety, the easiness of the course, and the condition of the body after the cure. Upon farther trial, however, it appeared, that, though the sublimate given in this manner succeeded in recent distempers, it was not to be relied on where the disease was inveterate.

This remedy was likewise successfully used in carcinomatous or phagedænic ulcers of the face. In these cases the solution was not only given internally, but the sores were washed with it.

S E A W A T E R.

SOME years since, the use of sea-water was strongly recommended, in a variety of disorders, by Dr. Ruffel, who confirmed its efficacy by a number of authenticated cases. From

the salt that it contains, it is necessarily endowed with a stimulating and resolving quality, which renders it particularly well adapted to those complaints that arise from a pituitous viscosity of the fluids. It therefore proves highly beneficial in all glandular obstructions, whether of the thorax, the abdomen, or the skin; and by its stimulus on the bowels, it also operates as a laxative. The patient usually begins with a gill, and the dose is gradually increased to such a quantity as procures two or three stools in the day. It is observed that the drought which happens at first, after drinking the water, generally goes off by frequent use.

END of VOL. I.

